THE AUTOMOBILE

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WHAT SAVANNAH OFFERS FOR A ROAD COURSE

SAVANNAH, GA., Dec. 9.—The Savannah Automobile Club is thoroughly in earnest in its efforts to have the availability and desirability of this city made known as the proper place for the holding of one of the big automobile road races. President F. C. Battey and his associates intend to leave no stone unturned to bring about the holding of an automobile event some time during the winter. According to information printed in the Savannah papers and given out by members of the club, the aid of the American Automobile Association has been solicited in the undertaking. The Mayor and other city officials and prominent citizens are greatly interested in the project, and it would appear that the Savannah club will be successful in its efforts to bring about a big road race.

In the near future the club will effect the organization of the Georgia State Automobile Association of the national body, and it is not improbable that should any profits accrue from the race intended to be held, it will be divided between the local club and the State body and used for the general good of all autoists.

Ten miles of almost perfect road are available for the course, the disposition being an east and west stretch, each four miles long and almost straight, joined by a north and a south road, each a mile in length. The starting and finishing point would be at the north end of the course, at Dale road or Forty-second street, just on the limits of the city of Savannah. At no point is the course crossed by other roads, and the only traffic intersecting it is a car line, the management of which has agreed to suspend operations during the meet. Road surface throughout is excellent macadam, the soil being of such a nature that even heavy rains only affect it for a few hours. The country being exceptionally level, and the roads unusually straight, the fastest speed would be possible with safety.

The climate of the district is one of the most equable in the country, the weather in January being usually very good, so that there would be little danger of rain interfering with the meet. From the viewpoint of picturesqueness, the course has few equals, the beautiful overhanging foliage forming a charm-

ALONG THE VERNON ROAD THERE IS A MOST PICTURESQUE CANOPY OF ANCIENT LIVE OAKS AND DROOPING SPANISH MOSS.

Photographs by M. Edward Wilson, Savannah, Ga.

CAUSEWAY ON LA ROCHE AVENUE, A MODEL ROAD SURFACE.

ON THE WATERS ROAD IS GREATEST "HILL" ON ENTIRE ROUTE.

ing setting. Probably the only objection which could be brought against the course is its shortness. From the spectators' standpoint, however, ten miles is an advantage, for it will give frequent passage of the racers; policing and guarding of the course would, in addition, be simplified by the short length.

While the ten-mile course is preferred by the local automobilists, should there be a positive demand for a larger circuit, it is possible to arrange for one of twenty-two miles, taking in a couple of roads which are not quite up to the standard, but would be plenty good enough for road racing and perhaps would add to the strenuousness of the event.

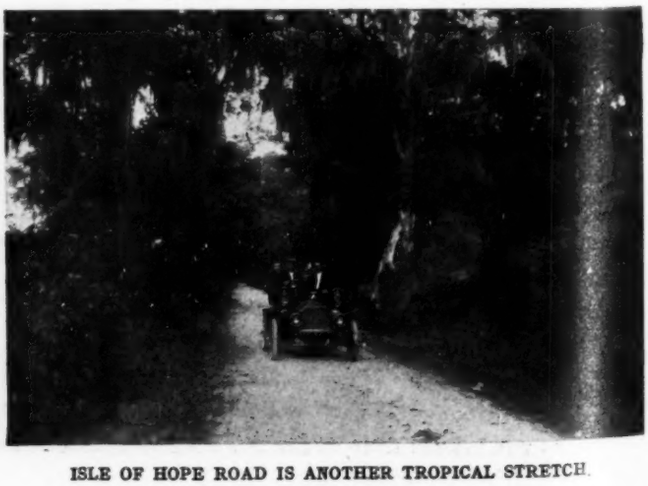
Savannah is easily accessible by some of the finest steamships sailing from Baltimore, Philadelphia, Boston and New York.

Savannah Editor Invites the Autoists.

Referring editorially to the project, the Savannah *News* expresses itself in the following terms:

"Bringing the big automobile meet in January to this city will be a good thing for all parties concerned, and we feel confident that it will be the beginning of regular annual meets of the same character here. No section of the country available for winter racing, not excepting California, offers so many advantages as do Savannah and Chatham County. The roads hereabouts are exceptionally fine and almost level, and the character of the soil is such that even heavy rains do not affect them for more than a few hours; and even in the heaviest rains the roads never become impracticable. In January, however, the weather is usually good, so that there is practically no danger of rains interfering with the races. Our climate is the most equable on the continent, so that extremes of weather need not be taken into consideration. When the visiting and competing automobilists have come and seen and driven over our roads, they cannot be otherwise than delighted, and when they go home they will advertise us to their friends, and those friends will wish to come and experience the pleasure themselves. Every effort should be put forward to the end of making this first big meet in Savannah a success in every way."

THUNDERBOLT ROAD HAS A GOOD START AND FINISH PLACE.



ISLE OF HOPE ROAD IS ANOTHER TROPICAL STRETCH.

GRAND PRIX MANAGER VISITING AMERICA.

Among the passengers on board the storm-delayed *Touraine* which warped into the French line pier on Monday morning last was Victor Breyer, president of the Board of Management of the Velodrome Buffalo, Paris. Mr. Breyer, who is on a short visit to the United States, is best known to the public on this side of the Atlantic as the manager of the French Grand Prix of the Automobile Club of France, run on the Dieppe circuit last July, and the first road race in France which had been made a financial success. The organization of the race was, in the opinion of all experts, the most perfect the world has ever seen, this excellent result being in great measure due to the efforts of the manager.

A. A. A. BOARD PLANS STOCK CHASSIS RACE.

At the first meeting of the new Technical Board of the A. A. A., with Chairman N. H. Van Sicklen presiding, held in Chicago, December 6, a committee was designated to draft rules for a national stock chassis race which will probably take place early in June, somewhere in the Middle West. A. L. Riker, Edgar Apperson, Henry Souther, E. R. Thomas, and Henry Ford were named. A. C. Newby, Edgar Apperson, and H. O. Smith, all from Indiana, will investigate and find out whether an Indiana course is available.

THE POWER BOAT SHOW IN THE PALACE.

Though they were not all weather beaten sea dogs who entered the Grand Central Palace, on Lexington avenue, New York City, last Saturday night, there was a distinctly nautical air about the building recently occupied by automobiles and now given up for seven days to the manufacturers of power boats.

ACTIVE AUTO DOINGS OUT ON THE PACIFIC COAST

SAN FRANCISCO, Dec. 3.—A battle royal threatens to disturb the quiet of "Automobile Row." Once more the question of holding a show in San Francisco this season is being agitated. Several months ago it was definitely decided to hold the event, the date was set, and it was the aim of all the members of the Dealers' Association of California to make the exhibition, to be held from the ninth to the fifteenth of December, one to be proud of, greatly surpassing, in every way, the one of last year. Committees were appointed, the place was chosen for the display of the new models, and extensive preparations were being made, when the conditions of the money market caused some of them to pause and consider. Things looked a little grave, and at one of the meetings, after much discussion, pro and con, the show was called off for the season. This was, however, not unanimous, many of the dealers wishing to exhibit their new cars in a competitive atmosphere, and as the outcome another meeting was held behind closed doors.

Most of the cars are consigned, or sent to the coast, removable from the freight cars only upon the payment of the draft accompanying the bill of lading. The unsettled financial state of the banks made it seem to the dealers impossible to raise the sum of money required to release these show cars. Those who found themselves in this position were, consequently, opposed to accruing indebtedness by holding the exhibition. The result of the meeting was the same as the former one. Fred J. Linz, manager of the Maxwell-Briscoe Company of the Pacific, and vice-president of the Dealers' Association, was absent from the city on a business trip to Oregon and Washington when both meetings were held and decisions were made against the show question. Mr. Linz heard of this in the North, and did not even wait to reach home, but wrote several letters promoting an exhibit. Upon his return he interviewed many of the dealers and found that the forces were almost evenly divided. So the battle is on, for those who desire to exhibit publicly must obtain a sanction from the Dealers' Association. The result is hard to foresee, but there is little doubt but that an event in the nature of a salon will take place some time in February.

Riverside's Annual Hill Climb a Success.

LOS ANGELES, CAL., Dec. 1.—Hill climbs, runs, races and contests always have their surprises and disappointments. This was no exception, but the surprises came mostly with the disappointments. Cars which were expected to show wonders failed to perform, but, as freely predicted, the former record of 5:41 2-5, held by a six-cylinder Stearns, was lowered a fraction less than twenty seconds by a Stoddard-Dayton, driven by Frank Seifert. In the $2,500 runabout class this car made the four miles in 5:21 1-2. A little bunch of nerves, Paul Derkum, went on a motorcycle up the long hill in 4:21. This is the fastest time ever known over the course, being close to a mile a minute speed for a rise of 700 feet in four miles.

The best time of the day for touring cars was made by a two-cylinder Tourist, driven by George Kussman. The climb was made in 5:42 1-2 in the class for cars costing $2,000 and under.

In the class for runabouts costing $3,000 and less, there was but one entry, the Stoddard-Dayton. The climb was in the nature of a warm up, and, after coming up in 5:31 1-2, the car was hurried down the hill to meet the new Haynes roadster in the free-for-all runabout class. The Stoddard-Dayton after its warming-up heat was even better and rolled the distance in 5:23. Frank Seifert drove as fast as the machine would go, and in the third time up, the $2,500 class, made his record of 5:21 1-2.

The two-cylinder Tourist and the smaller Oldsmobile were the sole starters in the class for touring cars costing $2,000 and under, and the Tourist was an easy winner in 5:42 1-2.

In the touring car class, $3,000 and under, P. A. Renton, with the Great Smith, won the cup for the class, his time being 6:43 1-2. Scratches cut the free-for-all touring car class down to four starters, and two of these, the Stearns and the Thomas Detroit, failed to finish. The Gearless went up in 6:17 and the White steamer in 6:27. D. M. Lee's Cadillac proved a winner in the $2,500 touring car class. The day's sport closed with the $4,000 touring car class for the Glenwood Inn Cup, a handsome copper masterpiece of the jeweler's art. It was won by an American in 5:56 2-5.

White Steamers Tie in the Del Monte Endurance Run.

There were four contestants in the recent event for the Del Monte endurance run cup, given by the Automobile Club of California. The White Company was represented by two cars, one driven by J. J. Borree and the other by Al. Piepenberg, and opposed to the steamers were two Tourist cars, one driven by

WHITE STEAMER, WHICH TIED FOR THE DEL MONTE CUP.

J. A. Nickrent and the other by E. E. Mason. Friday morning, November 22, at 7 o'clock, the signal was given at Belvedere by Chairman A. B. Watson of the club, and the four cars were sent away at fifteen-minute intervals. The course from Belvedere to Witter was covered by all four cars on schedule time. Then the quartette remained at Witter for the return trip on the following Monday.

In addition to the Del Monte cup was another contest for the Witter trophy, which was won by E. L. Peacock, driving a Mitchell. J. H. Berup, driving a contesting Lambert, protested the award of the Witter trophy, claiming that he had been unable to pass his opponent on account of the narrow road.

The Witter hill climbing contest took place on Saturday afternoon, the course being two miles long and containing many sharp curves and turns. A Buick won the challenge cup in 6:21, and was also successful in the free-for-all.

Monday morning the quartette of strivers for the Del Monte cup again resumed their struggle. Ten miles out of Middletown the Tourist had a narrow escape from going over the edge of an embankment and was rescued from the perilous position by one of the White steamers. The conclusion of the run resulted in a tie between the two White steamers.

BRITAIN WILL COMPETE CONTINENTALLY AND AT HOME

By JOSEPH F. MACKLE.

LONDON, Dec. 3.—Since the death of the Gordon Bennett contest the British attitude towards Continental races has been one of indifference, and, with the exception of the two unlucky eight-cylinder Weigels, no British car has shown its paces in French or Italian contests during the past two years. Mature consideration would seem to show that this has not been altogether the wisest of policies. The popularity of the big European races has suffered not one whit from the absence of British participants and without doubt much business has accrued to the winners of these races from British buyers.

The coming season will see a reversal of this stand-off policy. Many of the leading makers have announced their intention of competing for the Grand Prix race, and both the Ariel and the Deasy concerns have their cars on the road already. Napier will build special cars to suit the conditions of every European race of note, and S. F. Edge is confident of adding to the big speed reputation which Napiers have lately won at Brooklands and Gaillon. From other firms, as well, come indications of renewed activity for the racing game, and quite possibly the French will find Britain following in the steps of the Italians and wresting their laurels from them during the coming season.

Conditions for Tourist Trophy Event.

For events at home the new season's plans are already cut and dried. The Tourist Trophy race has served its purpose. It demonstrated the big speed possibilities of the moderate-powered light car, and at the same time brought about big improvements in petrol economy—improvements which show to advantage in the stock models of competing firms. Hardly anything was to be gained by the continuance of this race, and so, like the Gordon Bennett of good memory, it has given place to a new contest. This is to have no fuel limit, but will be a race pure and simple, open to cars of four or more cylinders whose D^2N dimensions (D being the diameter of the cylinders in inches and N the number of cylinders) do not exceed 64. For four-cylinder engines, this gives a maximum bore of four inches, whence the event is popularly styled the "four-inch" race. The minimum weight will be 1,800 pounds, exclusive of driver, mechanic, tools, and spares. The distance proposed is about 350 miles, and the race will take place in the Isle of Man about next May.

Reliability Run Considers Time Alone.

The reliability trial side of the program has been looked after by the Society of Motor Manufacturers and Traders, and rules have been drawn up for an event bearing the imposing title of "The International Motor Contest, United Kingdom, 1908." The contest is to consist of a 2,000-mile observed reliability run in daily stages of about 200 miles, the tour starting and finishing at London. On the journey there will be some 20 miles of timed hill-climbs, and at the end a 200-mile speed race will be held at Brooklands.

A novel and good point about this event will be the absence of arbitrary or complicated methods of judging. The record will be by time alone, that is, time taken to climb the hills and at Brooklands, time spent in adjustments and repairs, and time lost in filling petrol tanks, this last being counted at one minute for each gallon. The cars will be started for the final 200-mile race in each class according to their respective time records at their arrival at Brooklands. Therefore, the first car past the post in each class will be the winner.

No attention has been paid to such qualities as silence, springing or absence of vibration, the committee responsible for the rules rightly agreeing that such points as these can easily be judged by a potential purchaser in the course of a trial run, leaving the more important points, which cannot be so readily judged, to be settled by the big contest. This general proposal has met with much approval, and in all probability the event will be well supported by the trade.

AN AMERICAN BROOKLANDS TO BE NEAR PHILADELPHIA?

PHILADELPHIA, Dec. 9.—In the multiplicity of projects now going the rounds for the establishment of an American Brooklands in the East, the average automobilist is apt to take the announcement of a new one *cum grano salis*. But the scheme outlined for the American Autodrome, to be laid down within 15 minutes' drive of the Philadelphia City Hall, bears all the earmarks of being a go, backed as it is by some of the Quaker City's most prominent business men, with practically unlimited capital behind them.

The new track, which is to be a two-mile concrete and cinder oval, 100 feet wide, except on the turns, where it will be 125 feet, will be built at Llanerch, on the West Chester pike, about two miles west of the Sixty-ninth street terminal of the Market street elevated road. With the schedule now in force Llanerch is about 25 minutes from City Hall by trolley. On race days expresses can do the distance in 20 minutes or less.

The motordrome scheme is an idea of W. F. Magraw, a prominent real estate man, who succeeded in interesting Louis Bergdoll, the millionaire brewer and automobilist, in the project. The ground upon which the track will be built lies high and can be banked and graded at comparatively small expense. There are about 225 acres in the plot, and the engineers who are now at work staking the oval will arrange for several entrances from the surrounding roads, under the track, and into the infield. In many other respects the ideas incorporated into the Brooklands track will be followed, Mr. Magraw having made a special trip to England to study the details of that record-breaker. An expenditure of half a million dollars will be required to complete the track and all its appurtenances, but just at present all the promoters' energies will be devoted to building the track and entrances, which will be completed before July 4, if present plans do not go awry. In connection with the track it is proposed to form an automobile club, which shall eventually take over the entire plant.

Berlin now possesses a certificated woman aeronaut in the person of Frau la Quiante, an officer's wife, who has successfully passed her examination in both the theoretical and practical branches.

As the German Emperor's travels have upset all previous arrangements, he will not be able to open the Berlin show on December 5. The Crown Prince will assume this duty, as he did last year, and both he and Prince Henry of Prussia have promised to attend the banquet at night.

At the Paris congress the dates for the 2,400-kilometer Prince Henry tour were fixed for June 9 to 17, while the Kiel Week takes place from June 22 to 29.

A motordrome on the Brooklands idea is being proposed for Berlin, the site to be probably at Tetlow.

Austria's motor regulations have been unpleasantly enhanced by a decree of the Home Office, fixing the highest speed permissible on the open road at 30 kilometers. Until now this limit referred only to towns and villages.

WHAT TWO AMERICANS FOUND AT THE SALON

By ALFRED REEVES, General Manager American Motor Car Manufacturers' Association.

PARIS, Dec. 1.—After all is said and done in the matter of automobile shows, the present exhibition in the Grand Palais, which closed to-night, must be considered the last word. Because of a mammoth and beautiful building, built originally for the Paris Exhibition, it is possible here to house an exhibition of automobiles which is without doubt the finest industrial show ever held anywhere. To Americans the show is nothing short of dazzling, even though they are trained to some pretty good affairs at home. In company with Howard C. Marmon, of Indianapolis, who is a member of the Technical Committee of the A. M. C. M. A., I spent almost a week over the exhibits, finding new and interesting things at every turn.

HOWARD C. MARMON,
Technical Committee A.M.C.M.A.

No word artist can attempt to paint the decorative and electrical features that surround the finest productions of the motor car industry of France, Italy, Germany, Belgium, Holland, Switzerland, Spain, England and America. Under the glass roof of the wonderful Grand Palais, a building probably six times as large as Madison Square Garden or Grand Central Palace, are shown the glittering automobiles of the world's greatest factories. Thousands of variegated colored incandescent lamps, outside and inside the building, set off by two score of giant searchlights (the whole lighting system costing $600 an hour for current alone), produced a veritable fairyland setting that dazzled and astonished even the artistic Frenchmen, to say nothing of its effect on Americans visiting the show for the first time.

Imagine a great hall almost 1,000 feet long and about 500 feet wide, with a dome of solid massed electric lights; imagine four solid supporting columns of fire, of the most graceful lines, rising to the centerpiece, showing a sunburst that seemed striving to overcome the glow of sixteen searchlights, the whole being surrounded with gold and white draperies of light; imagine a sky of shimmering silver cloth, accentuated by a score of flashing searchlights, with side decorations of glowing club shields and borders of fleurs-de-lys.

Imagine a floor almost a quarter-mile square carrying hundreds of polished cars and decorated with electric signs of an infinite variety ranging from reproductions of fruits, flags, flowers, and arches in lights of every known color and form to the gigantic Darracq illuminated globe in the center; imagine the aisles and booths crowded with bejeweled women whose gems vied with the electric lights that flashed back defiance, and with silk-hatted men as escorts. Then imagine outside the building half a dozen boule-

ALFRED REEVES,
Gen. Manager of the A.M.C.M.A.

SCENE OUTSIDE THE GRAND PALAIS DURING THE HEIGHT OF THE GREAT EXHIBITION PRESENTED BY THE FRENCH INDUSTRY.

vards leading to the Palais being strung with thousands of electric lights in flower form, attached to majestic columns or hidden among sculpture work. Add to this a dozen or more electrically colored fountains, a horde of slow-moving autos with honking horns and staccato-like exhaust taking people to and from the show. Above, the majestic Eiffel tower casting a searchlight over all and a dozen revolving lights in front of the building. Finally, imagine the tale of the Arabian Nights or of a Roman spectacle, and you will have a faint idea of the brilliancy, richness, and perfection of what is unquestionably the world's greatest automobile show.

The Greatest of Automobile Shows.

Every effort was made to have this the greatest of all shows, and the efforts proved successful. From the band of 100 pieces to the very smallest detail, the public was impressed with the importance of the automobile, particularly with the position of France in the industry, and the public has shown its appreciation by attending in record numbers, there being 60,000 paid admissions last Sunday, with an average attendance each day of about 30,000. While there is some talk among the few of making this the last show because of the expense, which is very much greater than falls on exhibitors at American shows, yet it is admitted that shows can profitably be held for two or three years more, especially if a uniform style of decoration is followed out that will decrease the cost of individual exhibitors, some of whom at this show expended between $8,000 and $9,000.

While, of course, the exhibitors from France were in the great majority, there was an excellent representation from other countries, including an exhibit of the Ford Motor Company, the only one from America. The Ford made a big hit at the show, the stand being constantly surrounded by visitors, and many retail sales being made, besides arranging for agencies. Mr. Lockwood, who represented the Ford Company, says that with the exception of Turkey, where all motor cars have been barred, Ford machines are now used in every civilized country.

It was rather a novel thing here to see the show close at 7 o'clock in the evening. It opened at about 9 o'clock in the morning, but from 12 to 2 the building was practically deserted, as every good Frenchman takes at least two hours for dejeuner as against the American custom, where a light meal is considered the proper thing at midday. Great crowds attended in the afternoon, with the select element arriving at about 5 o'clock and remaining until the close. The admission was only a franc, but there were several days when it was 5 francs.

While there are no very radical changes in construction, there are many improvements in minor details that make for the perfect car. Generally speaking, prices have been reduced anywhere from 10 to 20 per cent., and special reductions are being made where cars are being sent to America, so that in many cases complete French cars of good reputation will be sold in 1908 on a price level with some of our best makes.

As might be expected, the business this year has been in small cars, and almost every maker exhibited cars of from 10 to 20 horsepower. Some of these have one cylinder in the case of runabouts; others two, but most of them four. The trade in big cars this year has not been good. The tendency of the makers and dealers is to be a little conservative next year. Prices of the small cars do not compare with ours, and there seems a fair field over here for cars for the masses.

Some of Mr. Marmon's Technical Impressions.

In my judgment, Howard C. Marmon, my associate on this trip, is one of the closest students of motor car construction that we have, and his opinions as obtained from a review of the show, are well worth considering. Of course, to our A. M. C. M. A. members will be given an exhaustive report of our investigations in Europe, but certain points are worth noting publicly for the benefit of the trade as a whole. In conversation regarding the impressions of an American engineer at the Paris show, Mr. Marmon said:

"The present exhibition discloses the general feeling of dissatisfaction among designers as to detail points that had come to be regarded as conventional, and the details in the cars show here every possible variation that well or ill directed ingenuity can suggest.

"Motor designs in general show a tendency to increase the number of cylinders in one casting. Small four-cylinder motors of from 10 to 18 horsepower are cast *en bloc*. Six-cylinder motors are usually in two sets of three cylinders.

"The greatest possible diversity is shown in mounting motors. The crankcases may have four separate arms cast on each side and carried out to the main frame, or may be made without arms and bolted directly to pressed steel or cast cross frame members or a very narrow sub-frame running parallel with the crankshaft. They are mounted with two crankcase arms near the flywheel, and a single point in front, or vice versa. This list only indicates some of the more common methods. Not many ball-bearing motors are shown. The circulating oil system of flood lubrication has been largely adopted.

"High-tension magneto ignition is gaining ground, as some of the most prominent advocates of make-and-break show either part or all their models fitted with a high-tension magneto.

"In heavy cars a number of examples of electric transmission are shown. The dynamo and motor may be mounted in the frame and used as an ordinary change-speed device, or the motors may be placed either in the front wheels or in the rear wheel hubs. Among the small cars of the two-passenger variety—of which many new varieties are shown—there are disk friction drives, flat belt drives, and V-belt drives on expansible pulleys, in addition to slip and planetary gear transmission. The small runabout is usually a one-cylinder vertical.

Some Self-starting Devices in Evidence.

"The most largely used starting device consists of a compressed air tank, a small air compressor driven either off the camshaft or the layshaft of the transmission, and a gear-driven air distributer to admit air to the cylinders in rotation at the top of their compression stroke through a check valve. As soon as the compressed air is turning the motor over at the necessary speed, it automatically takes up its normal functions and the air valve is closed by hand.

"The most noticeable innovation in rear-axle construction is the placing of the differential gear on the propeller shaft and driving through two sets of beveled wheels. When this is done the rear wheels are cambered.

"Great variety is shown in springing the rear end of the chassis frame. Semi-elliptic, three-quarter elliptic, full elliptic with solid ends, full elliptic with scroll ends, platform springs, a modified form of full-elliptic in which the upper half is one-half the length of the lower half, spiral springs, reach springs, and "C" springs are among those on view. The three-quarter elliptic is mostly used. Complete town cars are shown in which the inclosed part of the body is mounted on four "C" springs and swung by them above the chassis frame.

"Two extremes of practice are shown in frame construction. Some makers choose to adopt very light and flexible frames, while other makers, in an effort to get extreme rigidity, carry the sides of the pressed steel frames up sufficiently high to form the lower half of the body. Straight line bodies are very rare. The closed body is slightly convex, and the open body either slightly convex or a restrained King of Belgians type.

Although well used to seeing streets full of automobiles in New York and elsewhere, one cannot fail to be impressed with the standing of automobiles in Paris. It is simply full of them, and honking horns are heard every hour of the day and many hours of the night. Your Frenchman uses his car a great deal in business, and everybody else uses the taxicabs or the horse-drawn cabs, for other than these for transportation there are only a couple of steam trams and an underground system of rather limited capacity. Taxicabs have been in evidence for about two years and there are now about 3,000 in circulation.

E. V. COMPANY PLACED IN RECEIVERS' HANDS.

Inability, either to borrow or to collect what was due it, owing to the present stringent conditions, is given as the cause of the failure of the Electric Vehicle Company, Hartford, Conn., for which Halsey M. Barrett, of Newark, N. J., and Henry W. Nuckles, an officer of the company, were appointed receivers for the State of New Jersey by Judge Cross, of the United States Circuit Court in Newark, on Tuesday last. William S. Montgomery was also appointed at the same time by Judge Ward, of the United States Circuit Court in New York City, to serve with Mr. Barrett as ancillary receivers for the State of New York. It had been reported that the company was in financial straits recently, and action was precipitated by its default of payment of an issue of $2,500,000 of 6 per cent. gold bonds due November 1, as well as other obligations maturing since then. The business will be continued by the receivers and an attempt to reorganize undertaken in the near future.

The total liabilities reach a substantial figure, of which, in addition to the bond issue already referred to, $2,016,000 is said to be past due. Among the company's obligations are demand promissory notes to the extent of $591,043.32; a note for $300,000 due December 3, and smaller notes aggregating about $8,000. Included in the assets are the plant, valued at $717,498.16; finished vehicles, $173,087.73; consigned vehicles and merchandise, $90,387.51; patents and patent licenses, $11,447,537.28; materials, supplies and parts in process of manufacture, $770,474.20; stocks of other companies, $358,002; accounts receivable, $132,000, and cash, $12,000, all except the last two being merely book values. Under the head of assets are also listed the "good will" of the concern and the trade name, "Columbia." No mention is made of the company's interest in the Selden patent as such.

Isaac L. Rice was the organizer of the company, but shortly afterward transferred it to the Whitney-Ryan syndicate and the Elkins-Widener interests in Philadelphia, a deal that caused speculation in the company's stock to run rife during 1899-1900, when shares sold as high as 150, being quoted just before the failure at three and five, with nothing bid. The company organized subsidiary companies in several large cities and sold or leased them the vehicles it built. The Electric Storage Battery Company, which is another Whitney-Ryan concern, is said to hold a large block of the stock.

During recent months there have been several changes in the directorate and officers. M. J. Budlong resigned as president to assume the management of the A. L. A. M., H. H. Vreeland and Grant B. Schley, Jr., resigned as directors, and Hiram Percy Maxim, who had been chief engineer of the company for the past five years, also severed his connection with it.

MERCEDES PRODUCT TO BE MARKETED DIRECT.

It has just been announced that the Daimler Motoren Gesellschaft, Cansttat, Germany—the parent plant of the makers of the Mercedes cars—have turned their Austrian works over to the manufacture of a car to be known as the Maja, which is new in name, but which in construction and design is a replica of the well-known Mercedes. As a matter of fact, this is a sister car of the Mercedes with all the improvements and refinements that the designers of the latter found possible, the new thing in connection with its production being the fact that it will henceforth be known as the chief output of this famous German house, and will be marketed direct in all parts of the world by a London firm. This is the Maja Company, Ltd., and with the exception of the cars sold in Germany, it will handle the entire output, the main offices being in London, with direct branches in Paris, Stuttgart, Hamburg, St. Petersburg and New York, and these branches are fully organized and already in possession of the first models, which are offered, either complete with body or as chassis alone. The New York branch is located at 230 West Fifty-eighth street, and will have an exhibit at the Importers' Salon in Madison Square Garden.

SIXTEEN SCORE IN SEALED BONNET CONTEST.

WASHINGTON, D. C., Dec. 10.—The sealed bonnet contest promoted by the Automobile Club of Washington and run to-day over a 118-mile course in a heavy rainstorm was by long odds the best automobile event this city has ever had. Twenty-nine cars were entered and all but three were on hand when Starter Mark gave the signal. Twenty-two cars finished within the time limit, and of this number sixteen had perfect scores. The weather conditions were enough to dampen the ardor of the most enthusiastic automobilist, as rain had been falling steadily for two days, leaving the roads in very bad condition and making fast time out of the question. To a two-cylinder Buick, driven by S. A. Luttrell, fell the honor of making the fastest time, Luttrell covering the course in 8 hours 1 minute. Notwithstanding the bad road conditions, mechanical and tire troubles were few. There were no untoward incidents to mark the contest, which was handled in a very clever manner by the committee designated by President Caverly, who was "on the job" himself.

Some portions of the route were almost impassable and required the most careful driving to bring the cars through.

Owing to the great publicity given the contest it is sure to give the trade and sport a decided impetus, particularly as there was not a single protest lodged with the contest committee. In the order of finishing, the clean-score cars and drivers were very closely placed, checking in at the final as follows:

Thomas Flyer, W. C. Hood; Franklin, E. Hart; Buick, S. A. Luttrell; Oldsmobile, J. A. Lutz; Ford, C. E. Miller; Cadillac, R. Jose; Maryland, J. M. Rife; Franklin, F. S. Bliven; Locomobile, J. Florida; Packard, I. Freund; Wayne, John Hartman; Columbia, F. P. Hall; Mitchell, P. M. Smart; Mitchell, F. I. Flynn; Corbin, E. D. Harrison; Maxwell, J. R. Thomas.

TO REJUVENATE PHILA-BALTIMORE "CANAL."

MEDIA, PA., Dec. 9.—The crying need of a more direct route between Philadelphia and Baltimore than the present roundabout way through Lancaster and York was the burden of the plaint at a banquet given by the Automobile Club of Delaware County to the road supervisors and the councilmen of the several towns and boroughs of the county located along the old Baltimore, last Saturday night at the Collonade Hotel, in Media. This old road, which in the dim and misty past was macadamized, is now and has been for many years a veritable mudhole. One of the speakers, Judge Isaac Johnson, of Media, jokingly referred to the old road as a "canal," and the appellation will not come far from holding good during and after a rainy spell, frequently for many days at a time.

It was to create a sentiment in favor of an immediate improvement of the old road, which in Revolutionary days was the direct post road to the South, that the Delaware County Club gathered the supervisors and the law makers together and told them what they wanted. The seed evidently fell on fertile soil, for the club's guests were convinced that the appeal for the road's improvement was not based on a mere desire to make easy going for automobiles, but that in its present condition the highway was a detriment to the county's best interests. Besides setting the ball rolling in their own county, the Delaware Countians took steps to interest the Chester County officials in the effort to secure the rebuilding of the road as far as the State line, meanwhile working up the Marylanders to do their share in putting the road in shape up to the gates of their metropolis, as co-operation is essential to the success of the project.

As a means to the end nearest their hearts, the automobilists launched the Good Roads Association of Delaware County, and every one present pledged himself to become an active member.

The number thus enrolled in the good cause at the outset is considerable, and includes many of the most prominent autoists in the territory affected. That the most direct route between two large centers of population should have ever been permitted to fall into such ruin is inconceivable.

DETROIT'S FIRST SHOW NOTABLE AND SUCCESSFUL

DETROIT, MICH., Dec. 10.—From an artistic standpoint the first show of the Detroit Automobile Dealers' Association, in progress at Riverview Park Auditorium this week, is an emphatic success. What it may total financially is yet to be determined, but from the attendance and the enthusiasm exhibited it is certain to prove anything but a failure.

Upwards of a score of dealers are members of the association, organized but a few months ago, and approximately twice that number of standard cars are to be seen at Riverview Park. Following as it did the national show at Chicago, Detroit got the cream of the exhibits there. In few cities is the competition keener than Detroit. In the first place it is the recognized center of automobile manufacturing, several of the largest and best known concerns in the business being located here. Outsiders were not slow to appreciate the fact that passiveness on their part would give Detroit manufacturers a decided advantage, and they have backed up their local representatives.

Many of the Chicago exhibits were sent here practically intact. Others were augmented by the factories, and, numbers considered, it would be difficult to plan a more comprehensive exhibit.

Several new features not shown elsewhere were saved for Detroit, among them being the new Ford line, including a landaulet and a five-passenger light touring car with the same chassis as the runabout. Another newcomer was an electric machine put out by the Anderson Carriage Co., of Detroit, and which made its bow to the local public Monday evening.

Manager LeRoy Pelletier was given a free hand in the decorations, and the result was a distinct surprise, surpassing any previous effort of its nature. Running entirely around the immense auditorium was a border of mammoth posters done in colors by Detroit newspaper artists, depicting humorously the experiences of motorists from the first attack of automobilitis to the final stages of motorphobia. Green, gold and white were the colors employed in its decorations.

The show was thrown open to members of the Detroit Automobile Club for preliminary inspection Monday evening, Thursday evening being designated as society night, with the customary boost in prices. The show proved a strong drawing card, and with the final outcome yet to be determined the dealers express themselves as well satisfied.

Gasoline Cars.

J. H. Brady Auto Co.—Peerless, Pope-Hartford and Autocar.
Winton Motor Carriage Co.—Winton.
Maxwell, Briscoe, McLeod Co.—Maxwell, Mitchell and Brush runabout.
J. P. Schneider—Pierce, Stevens-Duryea, Franklin, Pope-Toledo and Columbia.
Wm. F. V. Neumann & Co.—Welch, Stoddard-Dayton and Reo.
Grant Bros. Auto Co.—Thomas Flyer, Thomas Detroit and Buick.
Cadillac Motor Car Co.—Cadillac.
Anderson Electric Agency—American Simplex.
Fee-Bock Co.—Elmore.
Ford Motor Co.—Ford.
Seidler-Miner Automobile Co.—Jackson.
Motor Car Co.—Cartercar.
De Luxe Motor Car Co.—Car De Luxe.
Oldsmobile Co.—Oldsmobile.

Electric Cars.

Maxwell, Briscoe, McLeod Co.—Columbia Electric.
Anderson Electric Agency—Detroit.
Wm. F. V. Neumann & Co.—Rauch-Lang.
Fee-Bock Co.—Pope-Waverly.
Fee-Vincent Co.—Woods Electric.
J. P. Schneider—Columbia.
Seidler-Miner Auto Co.—Babcock.

Steam Cars.

White Sales Co.—White Steamers.

ROADMAKERS TO HEAR BAY STATE AUTOISTS.

SPRINGFIELD, MASS., Dec. 9.—A movement has been started by the Good Roads Committee of the Automobile Club of Springfield which is likely to result in the installation of continuous State road between this city and Warren, the practically sole remaining link of poor road on the trunk line between Boston and New York. A hearing will be held in this city, Thursday, December 19, when the State Highway Commission will hear prominent autoists from the western part of Massachusetts, where the Berkshires are located.

In addition to the completion of the trunk line which will be brought up, the autoists will insist on the completion of at least one of the three routes from Springfield into the heart of the Berkshires, one of the most popular goals for autoists as well as the most beautiful of its kind in New England. Of the three routes from Springfield, via "Jacob's Ladder," Becket, and Northampton, the "Jacob's Ladder" route has only about eight miles of uncompleted road, and this route also Chairman McClintock has signified an intention to complete next spring.

It is the opinion of autoists in this part of the State that this immediate section has been neglected by the State Highway Commission for the last year or two, and for this reason Chairman McClintock announced at the Good Roads convention, held here in September, that he proposed to remember it in the road construction next year.

The committee of the Automobile Club which has the details of the hearing in charge consists of Willis A. Ford, chairman; Superintendent of Streets Arthur A. Adams, and W. T. Helfer. The visiting autoists and the members of the Commission will be entertained here by the Automobile Club.

MOTORPHOBE JUSTICE OVERSTEPS HIMSELF.

ALBANY, N. Y., Dec. 10.—That a too zealous upholder of the speed laws may defeat his own ends by imposing limit sentences, has seldom been better illustrated than in the case of Howard A. De Graaf, who was arrested for overspeeding in Rensselaer county, and taken before Justice J. P. Van Ness in the village of East Greenbush, N. Y. He pleaded not guilty and was fined $100, from which decision he appealed. The action, known as *People* vs. *De Graaf*, was defended by Bender & Hinman, of Albany, and was carried to the County Court, which recently handed down a decision that not alone reverses the lower court, but effectively puts an end to any further proceedings. A justice's court is not one of record, and, as such, its jurisdiction is limited to imposing fines not exceeding $50 nor terms of imprisonment not exceeding six months, so that in fining Mr. De Graaf $100, Justice Van Ness, who has achieved quite a reputation as a motorphobe, exceeded his authority, notwithstanding the fact that the Motor Vehicle law provides for a maximum fine of that amount. In similar cases of error the appellate court has the power to remit the record to the trial court for correction, but the statute does not include courts not of record, so that the action can go no further.

POPE RECEIVERS HAVE POWER.

TOLEDO, O., Dec. 9.—Judge Tayler, of the United States Circuit Court, has come to the assistance of A. L. Pope and G. A. Yule, receivers for the Pope Motor Car Company, of this city. Upon application by the receivers, in re the case of MacManus-Kelly company, the court granted the privilege to borrow additional money, issue more receivers' certificates on a changed basis and to renew the certificates issued August 18.

AUTOMOBILE LAMPS AND THEIR LENSES

By VICTOR LOUGHEED.

THE average purchaser of an automobile lamp makes his selection more on the lamp manufacturer's reputation than he does on any knowledge of his own concerning lamps. Indeed, more often than not it is the opinion even of the automobile expert that all lamps are pretty much alike and afford little room for the engineering refinements and niceties that are a matter of course with the more complicated car itself. Finish and workmanship, as well as the price, are expected to vary, but such nice optical distinctions as the difference between a "parabolens" and a "paraboloid" might as well be non-existent for all the attention they attract from the people most interested in their merits and applications, while the seemingly trivial difference between a short-focus and a long-focus lens mirror is almost never appraised at its full value. Yet a very cursory incursion into the field of the lamp maker is sufficient to convince the discerning layman that there is an XYZ as well as an ABC to the apparently simple proposition of providing a source of light and directing the illumination in a desired direction.

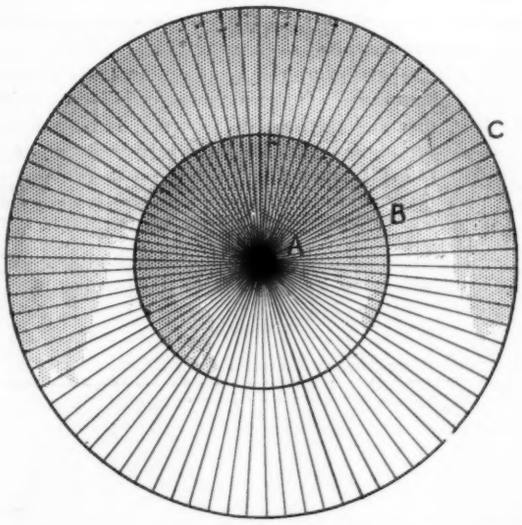


FIG. 1.—Illustrating the method of measuring "mean spherical candlepower," the light being placed at A, while the standard sphere through which the light is thrown is represented by B C, in the form of a hollow truncated cone.

The illuminants so far developed as practical for automobile lamps are few in number. There is the common kerosene-oil burner—simple, reliable, economical and universally available, which gives good service in a multiplicity of cheaper constructions; there is acetylene—affording a brilliant flame of great power, capable of being readily maintained from either a generator or storage tank; and there is electricity, in the form of the incandescent lamp, giving a light that is more nearly ideal than most others, though the problem of supplying it with current is not as simply and inexpensively solved as with its competitors. In addition to these there is the oxy-acetylene calcium light, which has been developed in a small way, but with considerable success, abroad, and in which a flame of acetylene fed with oxygen from a special storage tank is directed upon a lump of lime, giving a dazzling light similar to the well-known limelight, save for the substitution of acetylene for the hydrogen used in the earlier system. In the way of possibilities that may perhaps be considered as verging on commercial success, though they have not yet achieved it, there are the electric arc lights, developed to a high degree of efficiency for railway car use, the Nernst electric light, possessed of some alluring possibilities, and the incandescent gas lamp, which by the use of the new hard mantles, in conjunction with gasoline-vapor burners, should even now be capable of giving as good service on automobiles as it is giving in railway coaches and in other commercial uses.

The value of a light is usually expressed as so many "candlepower"—one candlepower being the light photometrically determined as that given by a sperm candle of certain standard size and construction. With most lights the illumination is radiated in all directions, though not necessarily with uniform intensity. This condition has given rise to the term "mean spherical candlepower," by which is meant the total of the light from a given source which will fall on the interior of a hollow sphere of a given size, as suggested by the cross section of *B*, Fig. 1, the source of light being at *A*. The necessity for basing figures upon a sphere of standard size is easily perceived when it is considered that to make the sphere larger or smaller will increase or decrease the surface and thus correspondingly increase or decrease the illumination to a given unit of area. Thus, to

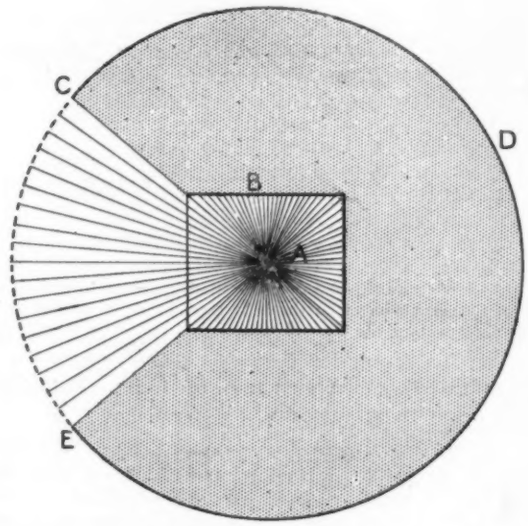


FIG. 2.—Showing how the amount of light available depends upon the form of the container in which it is placed, the box shown here permitting only 12 per cent. of the total light of A to be utilized, while 88 per cent. is absorbed and lost.

refer again to Fig. 1, the sphere *C* is of twice the diameter of *B*, so the area of its interior is four times as great. As a result, the given amount of light emanating from *A* can produce an illumination upon the interior of *C* only one-fourth as intense as on *B*. This law holds good in all possible applications and for parts of spheres as well as whole spheres, so it is the comparatively simple explanation of the fact that the intensity of light decreases in proportion to the square of the distance—being only one-fourth as intense for twice as far, one-ninth as intense for three times as far, one ten-thousandth as intense for one hundred times as far, etc. The last figure is suggestive of the problem encountered in lighting the road in front of an automobile, since to get a given illumination 1,000 feet ahead, ten thousand times as intense a light is necessary as would be required to give the same illumination ten feet ahead.

It is obvious that there are just two ways to overcome the difficulty stated. One is to adopt the absurd policy of actually providing the light of a strength ten thousand times multiplied, with all that this would involve in the way of costly and complicated maintenance, objectionably intense nearby illumination, at the same time cutting off rays falling in undesired directions.

The other method is to utilize a light of more moderate power while intercepting its rays of undesired direction by mirrors and lenses, properly formed to reflect and refract the largest possible proportion of these rays into the direction in which the illumination is required. In this connection it must be understood that light rays always travel in straight lines from their source, unless reflected or refracted, so a lamp consisting of simply a vessel of non-reflecting material, with an opening in one side, would waste a majority of the light just as completely as an entirely closed vessel would waste the whole of it. That is to say, if the opaque, non-reflecting vessel *B*, Fig. 2, is used for a lamp, all of the light from *A* that would have fallen on the spherical surface *C D E* is wasted, only the cone of light *C E*, amounting to only 12 per cent. of the total from *A*, being saved.

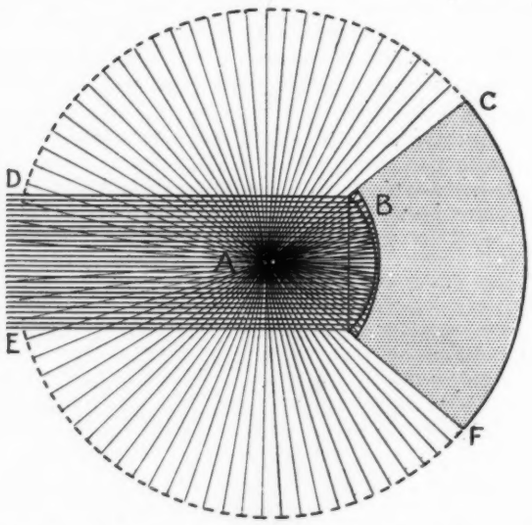


FIG. 3.—Type of characteristic automobile headlight using long-focus mirror lens, showing the manner in which the light given by A is concentrated and thrown directly forward in the shape of parallel rays.

And it is projected in diverging rays, producing an illumination of rapidly diminishing intensity, in accordance with the law already stated in connection with lighting objects at a distance.

From what has been explained, it now must clearly appear that for a light to be projected to a distance without exceedingly great loss it must be projected in a beam of rays as nearly as possible parallel. And to give as powerful an initial intensity as possible to the beam all rays from the light source that can be reflected or refracted into it should be intercepted by mirrors or lenses, or by a combination of both. The nearest possible approximations to these ideal requirements are the ends sought by all scientific lamp manufacturers.

Low Efficiency of Typical Auto Headlight.

A characteristic automobile headlight, using a long-focus lens mirror, *B*, is diagramed in Fig. 3, in which *A* is the source of light, *C F* is the cone of rays intercepted and projected by the mirror, and *C D E F* is the amount of light wasted. In this case, with the proportions pictured, the amount of light, *C D*, which is converted in the parallel beam *D E* is only 12 per cent. of the total given by *A*.

A short-focus lens mirror lamp is diagramed in Fig. 4, in which the principal difference from the preceding consists in shaping the lens mirror *B* so that it can be placed closer to the light at *A*, this simple expedient serving to increase the size of the cone of intercepted rays, *C F*, very materially over that of the corresponding cone in the preceding case, 37 per cent. against 12 per cent. of the light now being saved, which amounts to an actual tripling of the forward illumination as represented by the beam *D E*.

Before proceeding further it will be well to explain some of the considerations involved in the reflection and refraction of light under the conditions that apply in an automobile lamp. To begin with, it must be known that the ideal illumination for projection purposes would be one with all the light proceeding from an infinitely small point, no other condition permitting the realization of a perfect non-diverging beam of maintained intensity. Practically, of course, it is impossible to realize this theoretical ideal, but the best results are had with the lights that nearest approximate its requirements. Incandescent electric lamps, for instance, with closely coiled filaments, and the oxy-acetylene light, with a small button of lime as the source of the illumination, give good results, while the tiny "crater" of an arc light, whence nearly all of its light emanates, is the reason for its universal use in navy searchlights. Reflecting surfaces are invariably metallic, properly polished speculum metal, composed of 70 parts of copper to 30 parts of tin, reflecting a greater percentage of the light than anything else that is in practical use. Next to this comes the amalgams with which the backs of glass mirrors are coated, while pure silver is a close third in its qualities.

Every Surface Absorbs Some of the Light.

No surface, of any material, can reflect all of the light that falls upon it, some certain proportion, varying from very little in the case of a good mirror to almost the whole in the case of a dead black surface, being absorbed. This makes it imperative that reflecting surfaces be kept in a condition of highest possible polish, if a major portion of the light falling upon them is not to be lost by absorption. To keep them so, however, when exposed to dust, soot and the heat of a burner, is no simple problem, for which reason the mirror lens, practically a glass protected film of metal employed as a reflector, has come widely into use, it being comparatively easy to keep the glass clean.

It is a law of optics that a ray of light falling upon a surface is reflected at the same angle as that at which it impinges—the "angle of incidence being equal to the angle of reflection." This

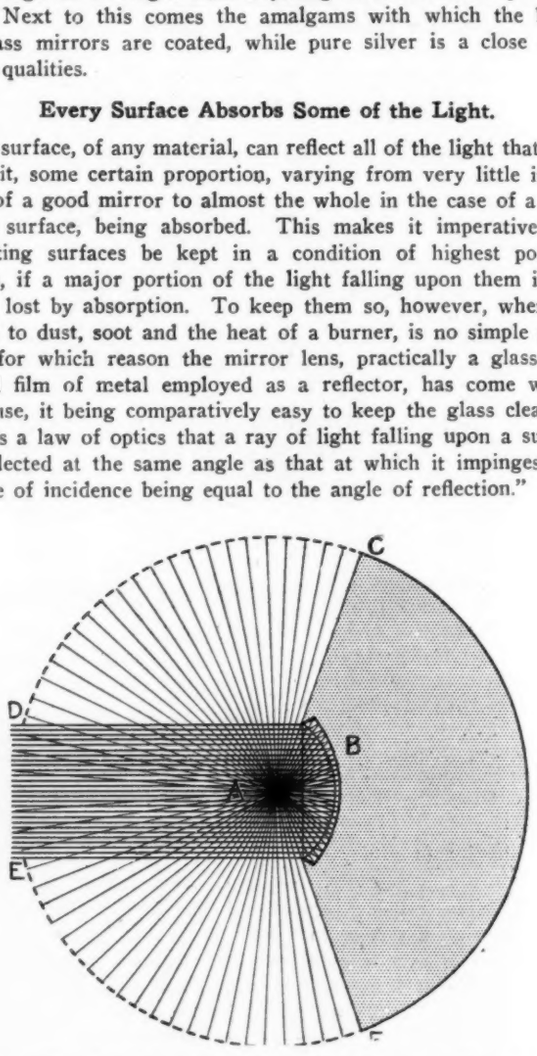


FIG. 4.—Short-focus lamp of type similar to that shown in Fig. 3, illustrating the saving effected by bringing the mirror reflector closer to the source of light, the efficiency of this lamp being more than triple that of the former.

law controls the form of mirrors, and, because of its mathematical properties, a paraboloid—the figure formed by the rotation of a parabola on its axis—with the light at its focus, is the only form of mirror that can project in an absolutely parallel beam all of the rays that fall upon it. A parabola, however, is a curve that can be infinitely extended—being mathematically an ellipse with its other focus at infinity—so it follows that a parabola of any desired size can be used, extended to any desired degree. This makes it practical to use spherical mirrors

with a close approximation to theoretically correct results, provided the pencil or cone of rays intercepted by the mirror does not make too great an angle—the first portion of a parabolic curve conforming very close to an arc of a circle. In fact, the divergence given to the beam of light by the judicious use of a spherical mirror with a full understanding of its limitations is sure to be very much less than that unavoidably occasioned under any circumstances by the size of the light, which always must occupy more space than the theoretically ideal point.

In the use of mirror lenses the phenomenon of refraction, as well as that of reflection, must be taken into account. Refraction is produced whenever a ray of light passes from one transparent medium into another denser or rarer, and consists in a bending of the ray at the point of contact between the two media. The amount of this bending varies with different substances, each having its index of refraction, so by the use of properly shaped lenses of suitable materials refraction affords an important means of collecting or dispersing rays of light. A mirror-lens reflector necessarily has two surfaces—one to which the reflecting coating is applied and one that is left clear. The light striking this latter surface, therefore, undergoes refraction before it is reflected, and is again refracted as it emerges to produce the beam of light. This double refraction of the light rays would seriously disturb the results, even though the reflecting surface were of true parabolic form, were it not taken into account and the refracting surface of the lens given a properly related form. It is this consideration that explains the usual thickening of lens mirrors from their centers to their edges.

Character of the Light Limits the Focus.

Since the possible shortness of focus in an ordinary automobile lamp is limited by the danger of breaking the lens by the heat of the flame, despite the general use of heat resisting lead glasses, it follows the larger the mirror the larger the cone of rays it can intercept and reflect. This is because the minimum possible focus being determined by the heat condition

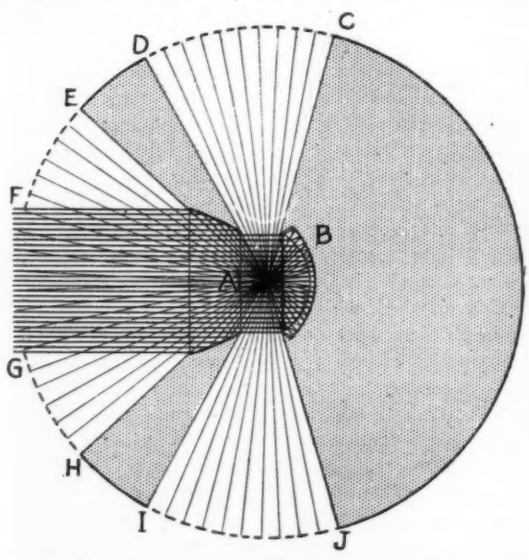


FIG. 5.—Combination of mirror lens with paraboloid reflector, by means of which fully 50 per cent. of the light produced by the burner at A is utilized in the rays thrown directly forward between G and F.

rather than by any optical condition, a given focus is shorter in proportion to a large lens mirror than it is to a small one.

Thus, in Fig. 4, if the lens mirror shown were replaced by one of larger size the cone of light falling upon it would be larger than that from *C* to *E*, with a corresponding increase in the light from *A* reflected to the beam *D E*. This would, of course, also increase the size of the beam, but in a less proportion than the increase in light reflected, so there is a gain both in intensity and in area illuminated. Evidently, then, it pays to have as large a mirror lens as can be afforded. With mirror lenses the waste of light *C D E F*, Figs. 3 and 4, is a serious objection, especially with flames like an acetylene flame, which gives practically equal light in every direction, and many attempts are made to overcome it. With a light like that of the electric arc, from which most of the light proceeds in one direction, the objection is not so pronounced, as by inclining the carbons most of the illumination can be cast on the mirror.

The lamp diagramed in Fig. 5 is a very common combination of mirror lens *B* with a portion of a paraboloid reflector *D E H I*. By this combination only the light from *E H* and *I J* is lost, the amount saved being increased to 50 per cent. of the whole, against 12 per cent. in Fig. 3 and 37 per cent. in Fig. 4. An objection to it is that the supplemental mirror *E D H I*

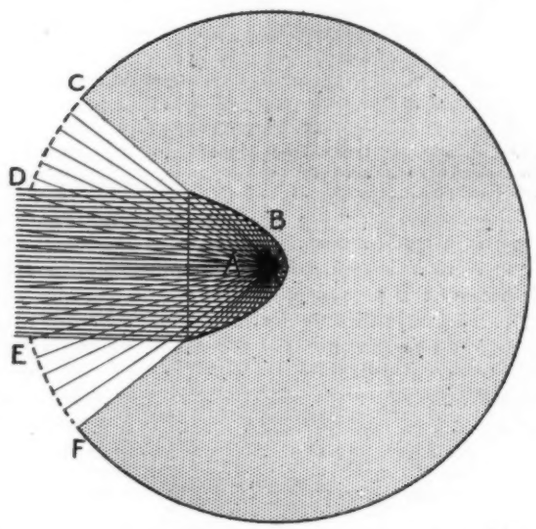


FIG. 6.—Common type of locomotive headlight with metal paraboloid reflector, using no mirror lens, as in automobile headlights. This lamp has a net efficiency of 88 per cent., but the metal reflector condemns it.

must be made of unprotected metal, and that, as such, it will either tarnish to a most inefficient condition or else present all manner of frequently recurring difficulty in the way of keeping it finely and serviceably polished. Moreover, such polishing, even if successfully accomplished—which is scarcely possible outside of a factory—will gradually wear away the exactness of surface that is a first essential to service.

Fig. 6 shows a regulation paraboloid lamp, with metal reflector, to the exclusion of the mirror lens. This type of lamp is used on nearly all locomotive headlights, and projects, with the proportions shown, 88 per cent. of the light—more than in the case of any of the preceding. But with it the objections to metallic reflectors are more than ever present, and especially condemn it for automobile use, which involves carrying it close to the ground, giving dust and moisture every opportunity to cause trouble. Some electric automobile headlights, however, are built on this plan and give a minimum of trouble because of the absence of any flame, but as already outlined the electric is not yet generally available for automobile use.

"Parabolens" Has the Highest Efficiency.

To gather in the rays *C F*, Fig. 6, which are the only ones that escape reflection in a paraboloid lamp, the "parabolens" lamp, illustrated in Fig. 7, has been devised. This design, which is a good many years old, having been first applied to locomotive headlights, was first adapted to automobile use in Europe. It intercepts 100 per cent. of the light and, were it not for the objections seemingly inseparable from the use of metal reflectors, would be far and away the best of all possible lamps. Its especial feature consists in the use of the lens *Q* to intercept the cone of light *C F* that escapes in Fig. 6. The use of the lens

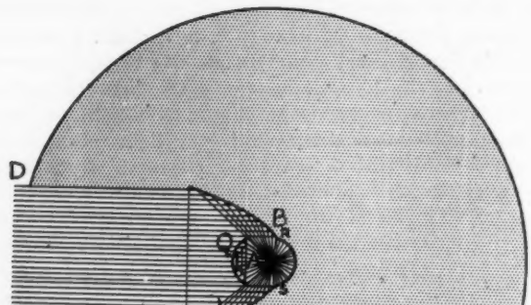
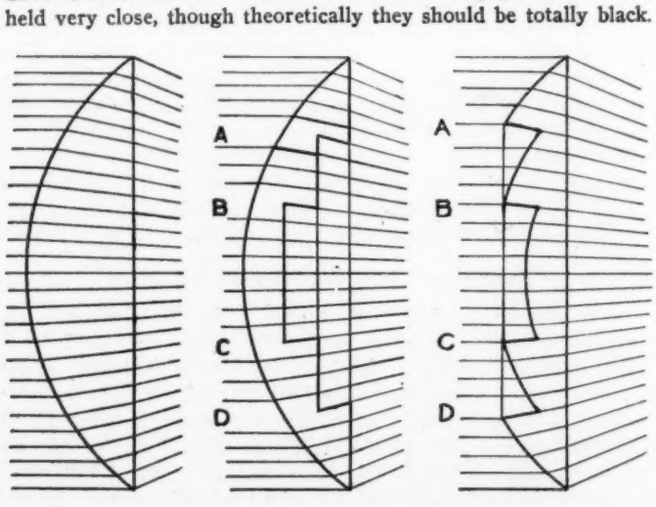


FIG. 7.—"Parabolens" type of lamp, formerly used on locomotives and first successfully adapted to the automobile on the Continent. It consists of a spherical reflector and plano-convex lens.

also requires a modification in the paraboloid reflector, the portion from *R* to *S* immediately behind *Q* being made spherical. This is because this portion of the reflector is not now required to cast parallel rays directly forward, since the only rays that the lens *Q* can project forward are ones that radiate upon it from a focus at the light source *A*. Therefore, by the use of a spherical reflector at *R S* each ray of light falling upon it from *A* is reflected directly back through *A* and thence to *Q* or *B*, just as in the case of the unreflected rays from *A*.

Preventing Absorption of Light by the Lens.

Since the lens *Q* has to be of considerable thickness, if of the ordinary plano-convex form shown in Fig. 8, which results in a considerable portion of the light passing through it being lost by absorption, the expedient of cutting back the plane surface of the lens as shown in Fig. 9 and 10 can be adopted, with the effect of thinning the glass while in no way adversely affecting the optical properties. Because of the difficulty of grinding the mortise-like depressions in Fig. 9, it is more usual to cut back the curved surface, as shown in Fig. 10. Both of these methods possess the minor objection that they give the dark zones at *A, B, C* and *D*, but there is enough diffusion of the light, because of the size of the flame, to fill up the dark zones before the beam is more than a foot or so from the lamp. Indeed it is difficult to discern their shadow on a sheet of paper unless it is held very close, though theoretically they should be totally black.



FIGS. 8, 9 and 10.—Illustrating the various expedients adopted to prevent loss of light by absorption in the glass of the lens itself when used in connection with the "parabolens" lamp as described here in detail.

Lamps of the parabolens type are best with chimneys surrounding the flame, to protect the reflecting surface as much as possible from heat and soot. Of course, with incandescent electric lights this precaution is especially unnecessary, and it is probable that this type of lamp, with electric light, will become increasingly important in the future. This seems especially likely to become the case in view of the recent developments in the incandescent lamp field, whereby a current consumption as low as one watt to the candlepower suffices for the operation of metallic-filament lamps, against the three-and-one-half-watt consumption of the ordinary carbon-filament lamp. It has even been suggested that with electric lights some method might be found of exhausting the air from parabolens lamp interiors. This certainly would be a means of avoiding the tarnishing of the reflector, but its practical application would involve some means of inserting lamp renewals besides absolute prevention of leakage.

How a Lamp's Candlepower Is Calculated.

It is to be noted, in considering the merits of the parabolens construction, that the lens *Q* will easily intercept as large a cone of rays as is intercepted by the long-focus mirror lens in Fig. 3, for which reason it is better than this type, even with its reflecting surfaces so tarnished as to be practically out of commission. In statements of the quality of projecting lamps it often will be seen asserted that the candlepower is 3,000 or some similarly high figure. In this case it is meant that the normal candlepower of the light, multiplied by the quotient given by dividing the area of a complete sphere by the area of the beam, gives this figure. For example, in Fig. 7 the entire light that normally would fall from *A* on the spherical surface is concentrated, minus absorption losses, into the area *D E*. This area is only one-fiftieth of the total area of the spheres shown, so the intensity at this unit distance is multiplied fifty times. Now, if *A* be a 25-candlepower burner, which is the usual acetylene or electric light standard, 25 times 50 gives 1,250 candlepower as the measure of the intensity of the beam. Front glasses for lamps are best when made of plain circular panes of thin plate glass, but to prevent breakage by expansion it is necessary, in very large lamps, to cut the front glasses into narrow vertical strips, capable of individual adjustment to temperature changes.

Enough has been said, it is hoped, to convince the reader that in the purchase of lamps, as well as of other automobile accessories, one gets about what he pays for, and that behind high prices there may be skill and quality far beyond what can be present in similar appearing goods sold at lower figures. Cheap mirrors and lenses usually are of molded glass, while the better qualities are ground; cheap metal reflectors are stamped, or spun, and roughly polished, while the best ones are finished more accurately by turning; back-opening lamps, to facilitate the cleansing of mirror lenses, are a convenience that can be had if paid for; and stop-cocks to adjust to a nicety the flames of twin headlights cost about what they are worth. The point is, every construction has its merits and serves its purposes, even if these be chiefly the meeting of the various classes of demand that exist. The discriminating buyer, considering his needs and his pocketbook, and knowing what is to be had, purchases accordingly, but, as has already been made plain, there is possibly not one in a hundred, or probably the proportion could more truthfully be lowered to the familiar "one in a thousand," in the ranks of present-day automobilists whose knowledge of lamps or the laws of optics is of sufficient extent to fit him to make such a choice intelligently. In the slang of the day, it is merely a case of "you pay your money and take your choice," but the choice is always influenced by the price set upon the article by the maker, and one of the chief objects of the foregoing has been to indicate that the added cost is by no means merely a matter of finish, or that the buyer is simply paying for the maker's name and nothing more, as has been the case only too frequently with many other lines of automobile accessories in general use on American cars.

LETTERS INTERESTING AND INSTRUCTIVE

TWO WHO THINK THE ACCIDENT AVOIDABLE.

Editor THE AUTOMOBILE:

[1,000.]—The accident illustrated and described by A. L. Westgard, in your issue of November 28, was, to my mind, avoidable, and was due to incompetent chauffeurs, particularly the one on the Broadway car, who should have stopped when the street car did and not attempted to cross Sixty-second street, when he had not seen if the way was clear. The fact that the street car stopped on that side of the street showed the way was not clear. It is an axiom of competent chauffeurs not to cross any street or in front of street or other cars without knowing absolutely the way is clear. COMPETENCE.

New York.

Editor THE AUTOMOBILE:

[1,001.]—Referring to Mr. Westgard's letter, No. 986, in your issue of November 28, concerning the accident at corner Broadway and Sixty-second street, I should say that this accident was the fault of "B." It is the common rule of the road that traffic on main thoroughfares and boulevards, and north and south streets have the right of way, and traffic coming in from cross or side streets or roads should approach or cross the thoroughfares cautiously. Certainly Broadway in this case is the main north or south thoroughfare, and any one coming in from Sixty-second street should come in with great care. What does your legal department think of this? RULES OF THE ROAD.

Chicago, Ill.

While not disputing your contention that the accident was avoidable, we might add that the fact that the street car stopped at that side of the intersecting street could not be taken as evidence that the street was not clear, as a municipal ordinance compels all street cars to come to a halt on the near side of a cross street in which a fire department station is located. If the street car had not come to a halt there would have been no accident, as B did not attempt to cross until he saw that the car's stopping left the way clear for him to get over the track.

Regarding the second letter, the statement that the traffic on avenues or other principal thoroughfares has the right of way is quite correct; also that drivers coming in from side streets should exercise greater care to avoid avenue traffic. But this being granted, it does not necessarily follow that B was at fault. In all such cases, when considered from the purely legal point of view, the responsibility for such an accident would depend upon whether the alleged cause of it were guilty of negligence or not. One of the chief elements of negligence is failure to exercise reasonable care, and just what constitutes the latter has been the subject of an endless number of decisions, as it depends entirely upon the circumstances governing the case. Broadway is quite a wide thoroughfare at the point in question, consisting of two roadways and a dividing walk down the center, and as B found it possible to cross two-thirds of the thoroughfare without seeing any other obstruction than the street car, the stopping of which permitted him to pass in front of it, the conclusion that he did not use reasonable care under the circumstances would not appear to be altogether well founded, as reasonable care does not imply the utmost precaution, but what the average man would do under the circumstances.

TWO-CYCLE CRANKCASE VOLUMES.

Editor THE AUTOMOBILE:

[1,002.]—In a two-cycle engine, which gives the greater charge in the cylinders—a crankcase of small capacity, or one of large capacity? ELMER NEWTON.

San Antonio, Texas.

The small volume crankcase, of course, gives the greater charge because it gives the higher crank chamber compression, with the consequent forcing of more fuel through the by-pass. The amount of fuel inspired under the piston is determined by the bore and stroke of the piston, and a large crankcase, therefore, cannot increase the amount inspired, while by lowering the crankcase compression it reduces the volume transferred.

TEMPERATURES AND CYLINDER WALL DAMAGE.

Editor THE AUTOMOBILE:

[1,003.]—Kindly advise me through "Letters Interesting and Instructive" at what temperature of the surrounding air will water, contained in jackets of automobile engine cylinders, freeze sufficiently to crack or burst the jackets. Please give me some information regarding water in copper fire-tube boilers, such as used in the Stanley steam automobiles. In both above cases, motor and boiler entirely cold and not receiving any artificial heat. Will water expand any in water-jackets at surrounding air temperature of 32° above? Will water, or ice formed from it, expand any more at temperatures of surrounding air lower than 32° than at 32°? Is it extremely cold water that bursts pipes, or must ice form before bursting occurs? "A SUBSCRIBER."

Newburgh, N. Y.

The same as if it were not contained in the water-jackets of an engine cylinder—i. e., 32 degrees Fahrenheit or zero Centigrade—assuming it to be ordinary fresh water, of course. You neglect to take into consideration the time element, as, assuming the temperature in question, several hours might be required to reduce the surrounding iron and the water itself to that temperature before freezing would take place. It would also require some time for the entire body of water to freeze or become solid to an extent where it would cause the bursting of the water-jackets. The water does not expand of itself, still remaining liquid, but in forming ice occupies 8.55 per cent. greater space than it did in the liquid state, and having once become ice it does not expand to any greater extent, regardless of the drop in temperature. Ice must form before any damage is done, otherwise anti-freezing solutions would be worthless, as it is only their property of remaining liquid at low temperatures that acts as a protection to the cylinder in preventing freezing.

MERITS OF DIFFERENT IGNITION SYSTEMS.

Editor THE AUTOMOBILE:

[1,004.]—What is the difference between high tension and low tension? Which is the most expensive to install? Which is the most expensive system to maintain? Which is considered most reliable? IGNITION.

Hartford, Conn.

In the high-tension system the current, when supplied by a battery, is led through a timer, the contacts on which correspond to the different cylinders. As contact is made in the timer the current is sent through the primary winding of an induction coil, which transforms or "steps it up" to a very high potential, thus enabling it to jump the gap of the spark plug, from which the name "jump spark." There is a coil for each cylinder usually, though in what is known as the "synchronized" system a single coil is employed, the primary current being timed and the secondary current distributed synchronously. In brief, the foregoing represents the high-tension system as generally employed, though there are various modifications.

Except for stationary or slow-speed work, it is not practical to use the low-tension or make-and-break ignition with a battery, but when so employed the current is first sent through what was commonly known as a "spark coil" before autoists applied the same term to the now generally used induction coil. The spark coil is merely a plain winding of heavy wire on a large core, and by what is known as self-induction causes a larger spark to take place when the ignitor opens. On automobile work the low-tension system is used with a magneto exclusively, no coil being necessary. The current generated in the magneto is led to an insulated plug inserted in the cylinder, against which a small moving arm makes contact through the medium of a push rod and cam on the camshaft of the motor. The current employed is low-tension, low voltage, or low potential, all of which mean the same thing, and consequently will not jump a gap. Hence in most ignitors, which take the place of the spark

plug in the high-tension system, the circuit is closed until the moment the spark is to take place, when the arm is snapped away from the stationary member, causing the current "to arc" or flash at the rupture of the circuit, the magneto being so timed that the current impulse generated is at its highest value just at that particular moment.

The low-tension system is without doubt the most expensive system to install, despite the fact of its far greater simplicity, as it requires a high-priced magneto and the work on the motor itself is of an expensive nature, the fact that the latter was done cheaply and without due regard to the requirements of the high-speed motor causing this system to be regarded unfavorably in early days. The high-tension system is the most expensive to maintain, particularly where batteries are employed as the source of current. Theoretically, where a high-tension magneto is employed alone this system should have the advantage in cost of upkeep over the low-tension, but we doubt if this proves to be the case in actual practice. The high-tension magneto, particularly of the self-contained type, is far more liable to derangement than the simple low-tension generator, while the cost of spark plug replacements will doubtless considerably exceed the expense of keeping the low-tension ignitors in shape. The question of reliability is one on which there is a great deal of difference of opinion, but we incline toward the low-tension system, owing to its far greater simplicity and corresponding certainty of action.

CONCERNING VARIOUS CHANGES OF GEAR RATIO.

Editor THE AUTOMOBILE:

[1,005.]—I have a two-cylinder machine which was originally geared 10-32, which I considered too high. I had it changed to 10-36, which worked very satisfactorily. Recently I had to order a new rear sprocket and they couldn't furnish the 36, but sent a 38, and, rather than wait, I had the 38 put on, but the machine is too slow. Now, would it not be better to put on a 11-tooth engine sprocket and leave the 38 on? Will you give me the ratio of increase of power between the 10-32 and the 10-36, and the 11-38? Road wheels, 28 inches. F. P. SNYDER.

Lafayette, Ind.

No matter what changes were made in the gear ratio of the transmission, this would not affect the *power* of the engine in any way, though it naturally has a very important bearing on the engine's ability to move the car, particularly on grades, as well as on the speed. The first gear ratio which you found too high was 3.2 to 1, and the second 3.6 to 1, and the third 3.8 to 1, and as the 28-inch wheels of the car only cover 7.25 feet per turn this last gear ratio would give the car a speed of but little better than twenty miles an hour on the direct drive, assuming that the engine ran at the rate of 1,000 r.p.m., so that we do not wonder you find it rather slow. Using an 11-tooth sprocket forward will give a result between the 10-32 and the 10-36, namely 3.45 to 1, and we should think this would be even more satisfactory than the 10-36 combination.

WHAT CONSTITUTES RUNNING TIME ON ROAD?

Editor THE AUTOMOBILE:

[1,006.]—Being a constant reader of your interesting journal for the past three years, would like to know if you would kindly give me some information in your columns, under the heading "Letters Interesting and Instructive," to settle an argument and wager. What do you consider running time on road? To be delayed by teams or other obstructions or stopping for meals, would you figure this as running time, or not? G. D. W.

Butte, Mont.

Time consumed in stopping for meals is naturally not *actual* running time and should not be figured as such. With regard to being delayed by obstructions, it would depend somewhat upon the manner in which this was done. If the obstruction were such that the car had to be halted until it was removed, the resulting delay would not ordinarily be included in the actual running time, but where the car is pocketed behind a slow-moving team or something of the kind, but continues to move, though at a greatly reduced rate of speed, this would be figured as running time. This is our impression of the general usage; on railroads, however, we believe it is customary to term the entire time allowed to make the run, including all regular stops, as a train's running time. In most automobile contests just what shall constitute running time is agreed upon in advance and includes everything but stops for meals and for tire repairs, as a rule.

CREDIT FOR FIRST SIX-CYLINDER MISPLACED.

Editor THE AUTOMOBILE:

[1,007.]—In answer to Mr. Titus' letter in the issue of "The Automobile" of November 7, in regard to the first six-cylinder car offered for sale, I wish to state that in the early part of 1904 the Commission Auto Company, of Boston, Mass., sold to a party in Attleboro a six-cylinder Gasmobile. This car at that time was second-hand and had been run a number of thousand miles and was surely over a year old. This car had a six-cylinder vertical engine, valves and spark plugs in the cylinder heads, leather-faced cone clutch, four-speed Panhard type transmission, and side chain drive. If the Thomas engine was built in 1904 and the Stevens and Napier in 1905, I am very sure that the Gasmobile Company have a very strong claim on building the first six-cylinder engine. This car can undoubtedly be seen to-day in Attleboro. Possibly somebody connected with the Gasmobile Company can give us the exact date that this car was built. C. T. BATES.

Brockton, Mass.

The car you refer to was built after designs by Fisher & Otto and was exhibited at Madison Square Garden in 1901 or 1902, and as a year or two was a long time in the early history of the automobile, counting by the progress made, the interval elapsing between the exhibition of this first six-cylinder and those of later vintage, was probably sufficient for many to have forgotten the pioneer, while later comers would naturally not be in a position to know of it.

SOME FACTS CONCERNING DENATURED ALCOHOL.

Editor THE AUTOMOBILE:

[1,008.]—Will you kindly advise me through "The Automobile," of which I have been a constant reader for some years, if the duty has been taken off grain alcohol; if so, when, and what is the retail price in New York City? ARTHUR HENDEY.

Jerome, Ariz.

The bill exempting grain alcohol from internal revenue tax when properly denatured according to government specification went into effect on January 1, 1907, and an amendment to the bill took effect in July last. This, of course, only applies to grain alcohol that is rendered unfit for drinking purposes by the addition of some noxious substance, such as wood alcohol. The retail price in New York City is about 60 cents a gallon upward, according to where it is purchased.

SINGLE COIL SYSTEMS OF IGNITION.

Editor THE AUTOMOBILE:

[1,009.]—Will you please answer, through your "Letters Interesting and Instructive," why a single coil wired so as to supply sparks to each cylinder of a motor is not better than multiple coils, since the spark would be uniform in each cylinder, and hence the motor would run steadier? If you have room, could you also give a diagram for the wiring of a single coil to supply a two-cylinder, two-cycle motor? INTERESTED SUBSCRIBER.

Boston, Mass.

The chief difficulties in the past, where the use of a single coil was concerned, were not so much with the coil itself as with the distributor of the secondary current. It was found so hard to properly insulate this that the use of a single coil and distributor, which had been adopted by quite a number of makers several years ago, was almost universally abandoned. Improvements in distributors have caused it to be taken up again, however, and it is now successfully used on quite a few cars. A modification of the idea is also employed, in which the four unit coils are used, but without vibrators, a fifth vibrating coil, or "master vibrator," being utilized to synchronize their action.

The wiring of such a system is so simple as to scarcely call for a diagram. A distributor designed for a two-cylinder, two-cycle motor must be obtained, and taking this as a starting point,

carry two high-tension wires from its secondary terminals, one to each of the spark plugs. Connect the primary and secondary terminals of the distributor with the corresponding posts on the single coil, these terminals usually being marked to enable this to be done without any trouble, in addition to which the manufacturers generally provide explicit directions. One side of the battery should be connected to the primary terminal of the coil and the other side of the battery grounded. As already mentioned, one side of the secondary of the coil is connected to the distributor; the other is grounded.

HORSEPOWER RATINGS UNDER A. L. A. M.

Editor THE AUTOMOBILE:

[1,010.]—Will you kindly give me the A. L. A. M. horsepower rating of the Thomas "Forty" and the Autocar "Thirty," and also the manner in which it is determined? W. F. WHALEN.

Pittsburg, Pa.

Under the formula in question the Thomas Detroit car figures out as exactly 40 horsepower, while the Autocar "Thirty" figures but 28.8 horsepower. The formula is $\frac{D^2 \times N}{2.5}$, in which D represents the diameter of the cylinder or bore, N the number of cylinders, while the denominator is a constant that is said to have been calculated from the dimensions and showing of a large number of representative American motors. It is noticeable, however, that in practice this formula gives results that are far from being even approximately correct. The tendency is to overrate small motors and greatly underrate larger ones, the Thomas "Forty" being the only case that has come to our notice in which the maker's rating and that of the formula exactly agree. It is customary with makers generally nowadays to greatly underrate the power of their motors, just as they greatly exaggerated it but a few years ago.

WEATHER CONDITIONS FOR EUROPEAN TOUR.

Editor THE AUTOMOBILE:

[1,011.]—Can you give me any information as to the climatic conditions of a tour through Italy and France up to the British Isles, in February and March? JOHN D. HORGAN.

Lynn, Mass.

Throughout the south of France and the lowlands of Italy climatic conditions are favorable for touring from the middle of February. Even along the Mediterranean coast, however, one may expect occasional cold spells until March, and the mountain districts cannot offer many attractions to the automobilist before April. From Paris northward cold weather and considerable rain may be expected during February. Usually towards the end of March climatic conditions have sufficiently improved to make touring agreeable. February and March are invariably disagreeable months for touring in the British Isles. Even in the south of England no vegetation has appeared at the end of March, and in the northern counties and Scotland stormy weather with rain or snow may be looked for until April. To obtain best climatic and touring conditions we would recommend staying in Italy or on the French Riviera until the end of March, visiting the northern part of France in April and the British Isles in May, thus following the warm weather northward.

AN UNUSUAL TYPE OF MANIFOLD.

Editor THE AUTOMOBILE:

[1,012.]—I would like to have you, through "Letters Interesting and Instructive," help me out of my trouble. I have an auto driven by a two-cylinder opposed motor. This motor starts hard. It has to be cranked for some time before it will take a charge. After starting it runs smooth and very slow speed, say 300 r.p.m., but when speeded up to about 500 or 600 it misses badly, but again works well at 800 or 900 r.p.m., and at any time it does not miss when pulling hard. My carbureter is set about four feet from the manifold, the tube leading from the carbureter is 1 1-4-inch iron tube, it goes down from the carbureter about six inches, then on a level, and then straight up to the manifold. There is a drip hole at the lowest place in this pipe, and after running the machine clean gasoline will run out of this drip. Is this caused by the long pipe that the mixture goes through or by the carbureter being set wrong? The carbureter is a Schebler, and air valve is set as weak as possible and the gas jet about 7-8 of one turn open. I can set the carbureter at the center of the manifold. Do you think this would help? R. H. DOW.

Adrian, Minn.

The position of the carbureter is most unusual and is apparently the cause of the difficulty you detail. The fact that a portion of the manifold is beneath the carbureter level doubtless sets up a siphon action, causing liquid gasoline to flow into the lower part of the manifold, which would account for the erratic running at low speeds or when the demand on the power is light. When the motor is running loaded the manifold becomes heated and the extra suction prevents the gasoline which finds its way into that part of the piping from remaining liquid. Relocating the carbureter at the center of the manifold and placing it so that no part of the piping is below it would doubtless be found to remedy the trouble.

ABOUT THE EMPLOYMENT OF PRESS FITS.

Editor THE AUTOMOBILE:

[1,013.]—Why is it not practicable in automobile construction to fit parts together by tapered shafts and holes, with powerful hydraulic presses, as is done in the building of railway locomotives, marine engines, and similar machinery worked under heavy duty and subject to greater vibration? ELBRIDGE HEWES.

Kewanee, Ill.

There is no question but that the use of press fits, as assemblage by the method you refer to is called, could be widely employed in automobile building. To an extent it has been employed and unless our memory serves us ill a number of instances could be found in the automobile industry of flywheels forced onto crankshafts, gearwheels onto gearshafts, cams onto camshafts, etc. And certainly a method that proves satisfactory for holding locomotive driving wheels and railway vehicle wheels generally on their axles, not to speak of crankpins, driving-wheels, rims, etc., held by the same process, is not likely to fall down under the stresses of lesser magnitude involved in automobile service. Certain practical considerations must be borne in mind, nevertheless. Automobiles, though assembled in well-equipped factories, may have to be taken apart on the road or in ill-equipped repair shops, while press fits require facilities like those always available with the locomotive for their assembling. As the necessity for frequent or complete dismounting of automobiles continues to be reduced, we expect the press fits to become more widely recognized as good practice. In the meantime we will be pleased to publish any communications that go to show just what is being done in this direction at the present time by automobile builders in this country.

WHAT PARTICULAR SPRING WHEEL IS THIS?

Editor THE AUTOMOBILE:

[1,014.]—Will you kindly inform me of the construction, or the number of the U. S. patent, of the wheel invented in France that uses springs on the spokes instead of the inflated tire? In case you know the numbers of any other patents on this line, would be pleased to know them, so that I can send to the Patent Office for them. LOUIS BLESSING.

Jackson, Mich.

Though you are doubtless unaware of it, you are asking far more than we could possibly give you. There have been scores, if not hundreds, of spring wheels brought out within the past few years in France and England, a few of which have actually been placed on the market and used in isolated instances. The same state of affairs prevails here with regard to the spring wheel, for ever since the early days of the bicycle there have been innumerable patents issued annually, so that probably the total number is well into the thousands by this time. If you have not access to a reference library in which a file of the *Patent Gazette* is to be found, ask any patent attorney to allow you the privilege of consulting his file. This publication is issued weekly by the Patent Office.

ASSASSINATION OF THE CANINE—BY AN EXPERT.

Editor THE AUTOMOBILE:

[1,015.]—The fourth question asked by Fred. D. Clark, of Prattsburg, N. Y., and answered by you in "Letters Interesting and Instructive" in your issue of November 21, interested me not a little, as during the past five or six years I have had considerable experience in running over dogs with my runabout, and not a few of these canines have been of the large variety. From the experience thus gained I would unhesitatingly answer the question as you did, and advise "preference for the immediate assassination of the dog, no matter how large, rather than try conclusions with any ditch, no matter how small."

In the practice of my profession, that of medicine, I have been employing continuously for over six years the same eight-horsepower, single-cylinder runabout. Being of an early vintage, my machine is somewhat more noisy in operation than is the present style machine. As a result dogs seem especially to get ruffled up when I come along the highway, and run out at the automobile and bark and—get run over. Something over a year ago I was driving my machine along a dirt road on one side of which was a bank about three feet higher than the road. On the other side was a ditch. A large black dog, of a breed unknown to me, ran out of a yard and along the top of the bank barking at the automobile. From an adjoining yard a good-sized collie dog darted out and sprang upon the black dog. The result was that both dogs, clinched together, rolled down the bank and directly in front of my machine.

DR. COLTER AND HIS DOG-KILLING RUNABOUT.

I had either to go over them or into the ditch, and I choose the former. I went over both dogs with both front and rear wheels on the left-hand side. The steering wheels were not in the least deflected, nor was there any bad jolt given to the machine. Strange to say, neither of the dogs was killed, or even severely injured. They got up after being run over and ran off in different directions.

On another occasion I was driving along an asphalt street that was wet and very slippery. Suddenly, and without a warning bark, a very large St. Bernard dog ran out at the auto. When he was almost to the machine he braced himself and tried to stop, but the street being slippery his momentum carried him directly in front of the wheels, and over him I went with both front and rear wheels. As in the first instance mentioned, my car was not in the least deflected from its course by the contact with the dog, nor was the dog very badly hurt.

I have had the experience of running over a great many dogs, of all sizes and nationalities. I have never yet killed a dog outright by running over it. Some of them may have died later on as a result of injuries received. It is hard for me to explain this fact of freedom from mortality for the dog. It is certainly not because my machine is a light one. It will weigh over sixteen hundred pounds. I am enclosing you a picture of myself in this old machine. You will note that it is equipped with solid tires. This would seem to make it more than ever likely to deal out death to the unfortunate dog under its wheels, but such has not been the case.

The rather strange appearance of the tire on the rear wheel will need a word of explanation. It looks like a casing out of the clincher of the wheel. So it is, but the rear wheel has a solid tire on its rim, the same as the front ones. The outer casing was put over the solid rubber tire by way of experiment, in order to find out whether or not it would remove some of the jar or jolt in rough places. The outer casing used was an old one that had been damaged beyond repair, and it was held in position over the solid tire by straps passed through holes cut in side of the casing and then over the wheel felloe. The particular casing shown in the picture has been on that wheel over eight months, and has never come off. The right-hand rear wheel has a similar casing on it, except that straps were not used to hold it in place. It was simply stretched over the solid tire, and it has stayed on the wheel as well as the left one with the straps. The vibration caused by the solid tires was lessened somewhat by these old outer casings used as described.

L. S. COLTER.

Cincinnati, Ohio.

ONE AUTOIST'S DETAILED EXPENSE ACCOUNT.

Editor THE AUTOMOBILE:

[1,016.]—Before buying a gasoline car I made most strenuous endeavors to learn the probable cost of its upkeep and operation. I had no trouble in getting answers to my many questions from many autoists, but among all my acquaintances I failed to find one who had kept careful segregated accounts. I knew from personal experience the cost of keeping up a steamer (first White model), but beyond being made to feel reasonably certain that the gasoline car would not probably increase my expenses, I got no satisfaction from my investigations. However, when in July, 1906, a runaway freight team put my steam Stanhope out of commission, I took the long contemplated step and abandoned steam for internal combustion, at the same time determining that at least one man would know what it cost him to run a gasoline car. The new purchase was a 20-horsepower light touring car, 1907 model, four-cycle, four-cylinder, water cooled, costing, f.o.b. factory, $2,500, equipped only with tools, lamps, and dry batteries. I thought when making the purchase, and still think, it as good and economical a car as the market affords for the price and description. I do not think the maker's name should be given. The car went into service September 1, 1906; the locus being San Francisco and vicinity, than which probably no more difficult and expensive metropolitan field of operation could be named. My sons and I have operated and cared for the car, no chauffeur being employed, and, being mechanics, although not working at the trade, we have made all repairs not necessitating the use of power tools or forge. My books of account show the items and total of expenses for one year's operation and maintenance as stated below. The year under consideration began September 1, 1906, and ended August 31, 1907, within which period the car was driven 8,545 miles, mainly in the business districts of San Francisco, but incidentally making tours to San Jose, Santa Cruz, Del Monte, and Lake Tahoe; the account shows as follows:

		Cost.	Cost in cents per car mile.
Tires:	Casings	$224.35	2.625
"	Inner tubes	65.25	.764
"	Repairs to casings and tubes	58.66	.687
"	Anti-skid devices	36.00	.421
Power:	Gasoline	221.50	2.592
"	Oil and grease	41.26	.482
Ignition:	Dry batteries and charging storage.	22.08	.258
"	Spark plugs	18.00	.210
Repairs:	Miscellaneous, ordinary	95.25	1.114
"	Due to accidents	131.03	1.533
Lights:	Carbide and coal oil	8.20	.096
Cleaning:	Cotton waste	10.00	.117
"	Garage clothing, chamois, sponges, etc.	14.95	.175
"	Sundry materials	7.95	.093
Miscellaneous:	Garage rent	165.00	1.931
"	Replacing lost and damaged tools	14.35	.166
"	Sundry items	20.75	.243

The foregoing classed under main heads shows as follows:

	Total Cost.	Cents per Car Mile.
Tires, tubes, etc.	$384.26	4.49
Power	262.76	3.08
Ignition	40.08	.47
Repairs	226.28	2.64
Lights	8.20	.09
Cleaning	32.90	.40
Sundries	200.10	2.34
Total	$1,154.58	13.51

During the year 884 gallons of gasoline were used, costing from twenty to thirty-five cents per gallon and averaging out very nearly to twenty-five cents. The car miles per gallon were 9.666, some day's running on fair country roads showing as high as 16.63 miles per gallon, while other days in the city have shown as low as 8.82.

The foregoing accounts do not include attachments bought, i.e., top, speedometer, storage batteries, etc., costing in the aggregate $317.93, nor anything for a chauffeur, whose wages alone would have doubled the total cost given and would have increased the car mile cost to above twenty-five cents. The car is in superb condition and of fine appearance, but the inevitable conclusion, in San Francisco at least, is that the motor car of to-day is not a poor man's vehicle.

B. N. C.

San Francisco, Cal.

Renault Presentation

Six-Cylinder Model Two Self-Starters and Detail Refinements

HOW THE 20-30-HORSEPOWER RENAULT CHASSIS APPEARS AFTER BEING REFINED FOR 1908.

REGARDED externally only, it would require an expert to distinguish between the models produced by the Renault Frères for the 1908 season and those turned out of the Billancourt factory during the past year. This settling tendency, general throughout the automobile industry, is probably more pronounced in the Renault product than in any other of Europe or America; it is indeed a boast of the firm that between their smallest touring car and their most powerful racer there is no difference other than that of size.

Commencing with the small two-cylinder car used extensively in Europe or taxicab work and as a small town vehicle the series is a 10-14 four-cylinder, a 14-20, a 20-30 and a 35-45-horsepower car, all with four-cylinder engine. The only new model is a 50-60-horsepower six-cylinder chassis, built to meet a demand for a powerful and flexible automobile.

In the four models comprising the series of four-cylinder cars no changes have been made in general design, but a number of details have been perfected as suggested by experience. Except in the matter of suspension there is a uniformity of design throughout the series, the four-cylinder engine in each case being cast in pairs, thermo-siphon water circulation being adopted with plain tubular radiator behind the engine, thus giving the maximum of accessibility, and high-tension Simms-Bosch magneto as sole source of ignition supply. Transmission on all models is of the progressive type, giving four speeds forward and reverse, and drive is by propeller shaft to rear live axle. Three-quarter elliptic springs, adopted last year for the first time, are retained for all but the smallest models, on which the platform type is adopted. Shock absorbers or both front and rear springs are a standard equipment on all cars above 20 horsepower.

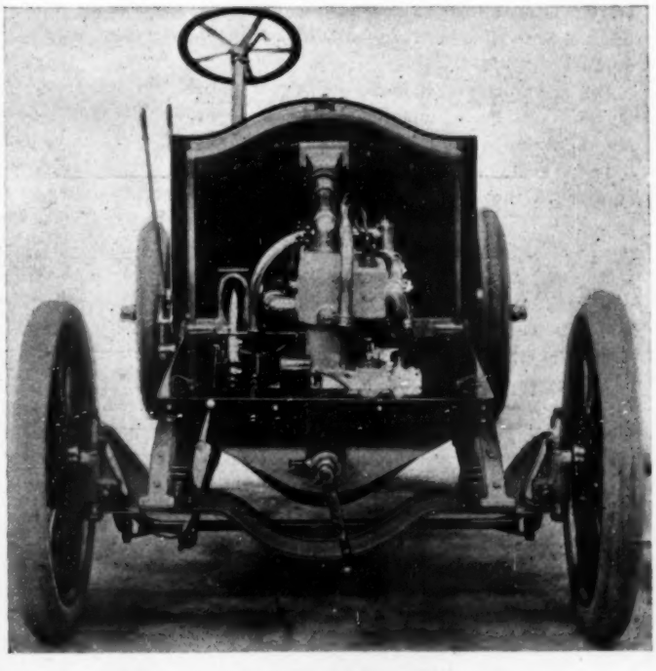
Some little change has been made on the gear box, the progressive type being retained, but the reverse clash gear being changed for a straight sliding type. In all other respects the gears remain as before, a feature of the Renault being that, although a progressive type, the arrangement is such that overall space is no greater than the majority of boxes on the selective principle.

Radiator design remains as on the 1907 models, but here again details have been perfected to allow of very easy dismounting and examination of the tubes. The base of the radiator fits into slots on the side frame and is held at each side by a single bolt, by the withdrawal of which and the inlet and outlet pipes the radiator can be removed as a unit. In this particular the maximum of simplicity appears to have been attained, there being no pump and no other connection than the retaining bolts and the inlet and outlet piping from the cylinders.

Improvements in the lubrication of the engine comprise a device for regulating the amount of oil in the crank chamber and more accurately controlling the flow from the lubricator. An attachment, fixed at the right-hand side of the forward cylinder, provides for reducing or draining off entirely the amount of oil in the crankcase, shutting off the supply or turning it on; the device has the virtue of perfect accessibility.

In the six-cylinder model, produced this year for the first time, cylinders are cast in pairs, dimensions being 4.7 by 5.5 bore and stroke. Excepting a slight change in the carbureter, designed to give a richer charge for starting the engine, the six-cylinder model is a case of adding another unit, clutch, transmission, final drive and suspension being exactly as on the four-cylinder cars. Wheelbase has been increased several inches.

The real novelty of the season from the Renault factory is



FRONT VIEW, SHOWING ACCESSIBILITY OF ENGINE.

the production of a self-starter on all models. In reality they are two, the large cars being fitted with a device of the compressed air type, and the smaller ones with a purely mechanical arrangement allowing of starting the motor from the driver's seat. In all the four-cylinder models and on the six there is a small air pump compressing air into a tank and delivering it in correct sequence to the cylinders at what would be under ordinary circumstances the firing point. The pump, which is carried at the forward end of the motor and driven direct from the two-to-one shaft, has a single air-cooled cylinder with independent head. The method of attachment has been so simplified that by taking off a couple of nuts and withdrawing two bolts the cylinder head or the entire cylinder may be dismounted. Inlet and outlet valves are both in the cylinder head, the latter communicating by means of a by-pass with the metal tank attached to one of the side members of the frame. When a pressure of ninety pounds has been attained a membrane in the compression chamber is deformed to prevent the closing of the inlet valve on the compression stroke, the pump thus working free. The pump shaft is mounted on ball bearings.

About twenty liters of air are contained in the compressed air tank, this quantity being sufficient to start the largest four-cylinder model seven or eight times. Communication from the tank to the cylinders is through suitable piping connected up to a petcock on the dashboard and passing from there to a distributor above the engine. When the petcock, which is operated by a hand lever, is closed, no air can pass, and pressure is retained indefinitely in the tank. From the distributer mounted on the cylinders air is carried to each cylinder by independent leads, correct sequence being insured by a rotary distributing valve driven by an inclined spindle from the camshaft, and so set that air is admitted at what would ordinarily be the firing stroke. Ease of inspection of the automatic inlet valve in each cylinder has been assured by attaching the inlet pipe to the housing of each valve by means of a simple socket screw, a few turns of which will allow the pipe to be withdrawn vertically. The attachment of the distributer is of the same simple nature. For the six-cylinder motor the apparatus is the same with the exception that, instead of two openings at 90 degrees in the distributer, there are three at 120 degrees, admitting a charge of compressed air in the order 1, 5, 3, 6, 2, 4. Although the self starter is an extra, it has been specially designed to fit all 1908 models with the least encumbrance and in the most accessible manner.

On the smallest models the motor is started up from the driver's seat by an ingenious but simple mechanical contrivance, the operation of which consists in withdrawing the clutch, placing the gears at neutral point and pressing down a foot pedal similar to those used for clutch and brake, thereby giving an impulsion to the crankshaft. The starting pedal, mounted free on the same shaft as the clutch and brake pedals, carries a sector gearing with a rack mounted on the gear box and sliding within a bronze casing. By means of suitable gearing from a pinion driven off the rack, a free wheel, and a ratchet, the motor shaft is vigorously propelled on each depression of the starting pedal, full provision being made to prevent the effects of a backfire reaching the pedal, and this latter always being brought into position for starting up again by means of a spiral spring and guide. As with the compressed air starter, this device is fitted as an extra, but both the 10-14-horsepower four-cylinder car and the two-cylinder models are designed to receive it.

Considerable attention is now being paid by the Renault firm to the production of engines for motor boats and for electric generating plants, as well as the construction of light delivery vehicles. This year a couple of eight-cylinder engines have also been produced, both with the cylinders placed in V, one of them being of the air-cooled type designed to secure extreme lightness for aeronautical purposes, and the other being water-cooled and following more general Renault design.

THE AUTOMOBILE CALENDAR.

AMERICAN.

Shows and Meetings.

Dec. 9-14.....—Detroit, Riverview Park Auditorium, Detroit Automobile Dealers' Association. LeRoy Pelletier, manager.

Dec. 14-21.....—St. Louis, Mo., Jai Alai Building, Second Annual Auto Show, St. Louis Automobile Manufacturers' and Dealers' Association. D. M. Strauss, manager.

Dec. 28-Jan. 4..—New York City, Madison Square Garden, Importers' Salon. C. R. Mabley, manager.

Jan. 14-18.....—Hartford, Conn., Foot Guard Hall, Hartford Automobile Dealers' Association.

Feb. 1-8.....—Providence, State Armory, Automobile Show. Frank M. Prescott, manager.

Feb. 10-15.....—Detroit, Light Guard Armory, Tri-State Automobile and Sporting Goods Association, Seventh Annual Show.

Feb. 17-22.....—Cleveland, Central Armory, Annual Show, Cleveland Automobile Dealers' Association. George Collister, manager.

Mar.7-14.....—Boston, Mechanics' Building and Horticultural Hall, Boston Automobile Dealers' Association. Chester I. Campbell, manager, 5 Park Square.

Mar. 9-14.....—Buffalo, Convention Hall, Sixth Annual Automobile Show, Automobile Club of Buffalo. Dai H. Lewis, manager.

Mar. 21-28.....—Toronto, Canada, St. Lawrence Arena, Automobile Show. R. M. Jaffray, manager.

Apr. 5-12.....—Montreal, Canada, Arena, Third Annual Automobile and Sportsman's Show. R. M. Jaffray, Mgr.

Motor Boat Shows.

Dec. 7-14.....—New York City, Grand Central Palace, National Association of Engine and Boat Manufacturers. Chester I. Campbell, manager, 5 Park Square, Boston.

Jan. 1-8.....—Chicago, Coliseum, National Association of Engine and Boat Manufacturers. Chester I. Campbell, manager, 5 Park Square, Boston.

Jan. 25-Feb. 1..—Boston, Mechanics' Building, National Association of Engine and Boat Manufacturers. Chester I. Campbell, manager, 5 Park Square, Boston.

Feb. 3-8.....—Buffalo, Convention Hall, First Annual Power Boat and Sportsman's Show, auspices of Buffalo Launch Club. Dai H. Lewis, manager.

Feb. 20-Mar. 7..—New York City, Madison Square Garden, Fourteenth Annual Motor Boat and Sportsman's Show.

FOREIGN.

Shows.

Dec. 5-22.....—Berlin, Germany, Automobile Show.

Dec. 21-Jan. 2..—Brussels, Show, Palace of the Cinquantenaire.

Jan.18-Feb.2,'08—Turin, Italy, Fifth International Automobile Exhibition, Palace of Fine Arts, Valentino Park, Automobile Club of Turin.

Mar. 21-28.....—London, Agricultural Hall, Cordingley's Show.

May 6-20.....—Moscow, Russia, International Automobile Exposition, Automobile Club of Moscow.

Races, Hill-Climbs, Etc.

April 1-13.....—Monaco Motor Boat Races and Motor Boat Exhibition, International Sporting Club of Monaco.

April 25-June 25—Industrial Vehicle Competition, Automobile Club of France.

May, 1908.....—Paris, Competition for Agricultural Automobiles, auspices of "L'Auto." (Exact date to be announced.)

May 10.....—Sicily, Targa Florio, Automobile Club of Italy.

June 1-18 .....—Reliability Trials for Pleasure Cars, Automobile Club of Great Britain.

June 9-17 .....—Touring Competition for the Prince Henry of Prussia prize, Germany, Imperial Automobile Club of Germany.

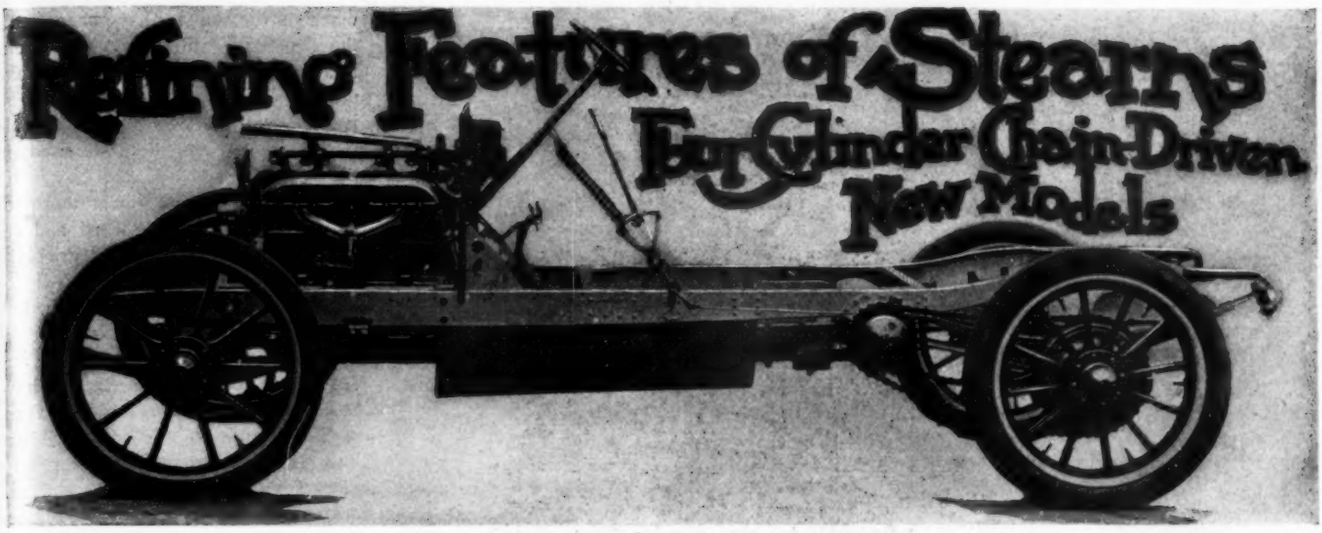
June 20-July 5..—Grand Prix, Dieppe Circuit, Automobile Club of France. (Exact date to be announced.)

July 13-17.....—Ostend, Belgium, International Race Week, Automobile Club of Ostend.

July 20-30.....—Ardennes Circuit Races and Coupe de Liedederke, Automobile Club of Belgium.

August, 1908...—France, Coupe de la Presse, Automobile Club of France. (Exact date to be announced.)

Refining Features of Stearns Four-Cylinder Chain-Driven New Models



STEARNS FOUR-CYLINDER MODEL, SHOWING CONTINUANCE OF MAIN FEATURES, BUT REFINEMENT OF MANY DETAILS.

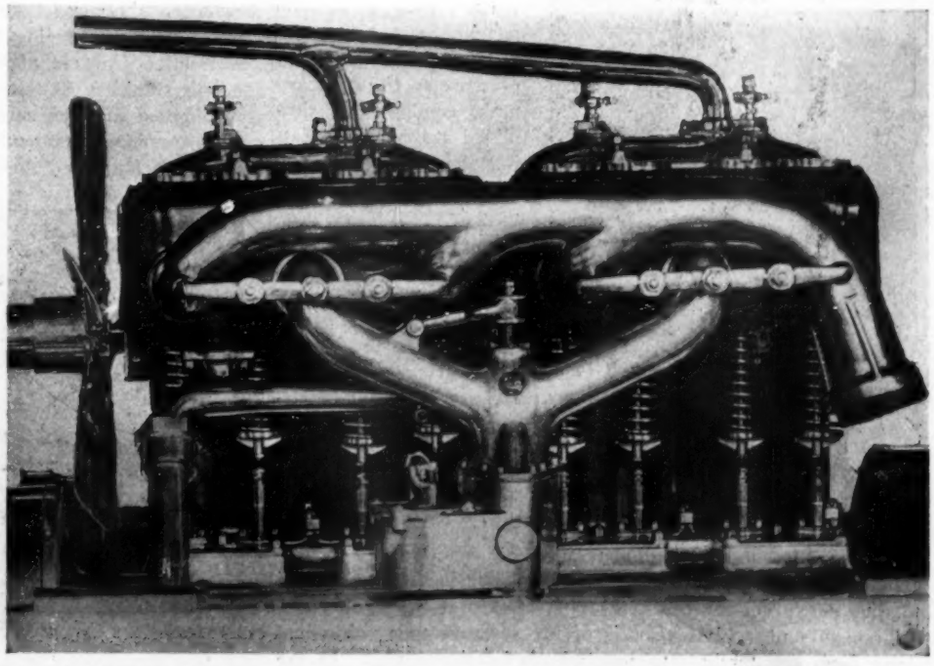
FOR practically all the leading constructors of automobiles the 1908 season will stand out as the year of refinements. Main features of design have been fixed upon, tried out and proved so satisfactory that designers have wisely resolved to continue on the same broad lines, devoting all their attention to the perfection of details as suggested by experience.

The product of the F. B. Stearns Company, of Cleveland, O., is an excellent example of this line of development. There is nothing in the 1908 car which cannot be found on the model of the previous year, yet the work of refining is noticeable in every feature of the machine; to put it in other words, all distinctive features were fully decided upon for the 1907 models and the same features have been refined and improved for 1908.

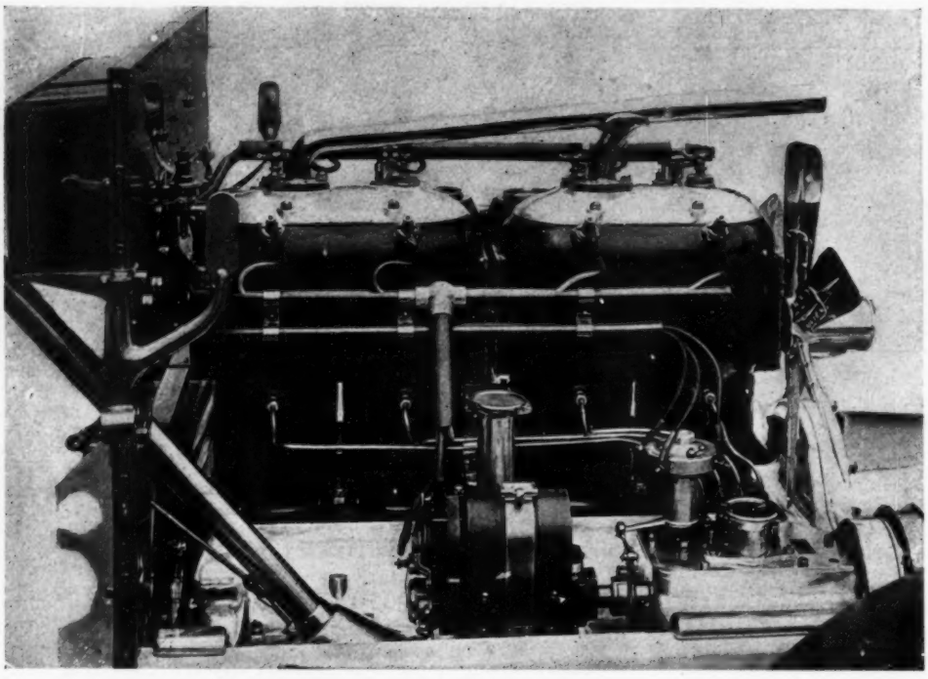
Two models only are produced, a 30-horsepower four-cylinder and a 45-horsepower six-cylinder chassis, the two chassis being fitted with different bodies varying from a two-passenger runabout to a seven-passenger limousine. The four-cylinder car retains its predominating position, the six being built only in limited numbers, the Stearns people being of the opinion that this type of engine is valuable only where an excess of power is required above what can be safely produced from four cylinders.

Though given in the catalogue as of 30 horsepower, the four-cylinder engine with its cylinders cast in pairs probably would give on a brake test almost twice that amount, for its bore and stroke is 5 3-8 by 5 7-8. As on the previous models, the twin cylinders have aluminum heads and are mounted on a crankcase attached direct to the side frame. A feature of the engine arrangement is that the entire power plant, including the radiator, ignition, carbureter, lubricator and steering gear is mounted on the crankcase. Valve arrangement on the Stearns follows the now generally adopted practice of placing intake and exhaust on one side, the valves themselves being interchangeable, and employing a single camshaft, gears being inclosed by an aluminum housing. This arrangement leaves the right hand side of the engine free for the ignition system, which in this case consists of a high-tension Bosch magneto driven from the same shaft as the lubricator, through inclosed gears. This is one of the few points in which last year's practice has been departed from. The high-tension plugs being placed on the same side of the motor as the magneto, a neat arrangement of encased wiring is possible between the two. Ignition by storage battery and a four-unit coil is also provided for, with separate plugs placed over the inlet valves.

Stearns has always been an upholder of ball bearings and on the new models uses them throughout not only the transmission but for the crankshaft, magneto-shaft, camshaft, pumpshaft and even the aluminum fan behind the cellular radiator. The well-known D. W. F. imported bearings are used exclusively. By reason of the numerous minor improvements carried out on each part of the engine a saving of no less than 300 pounds in weight has been effected on the chassis. The overall length of the motor, too, has been shortened, permitting its location three inches to the rear of the axle without increasing the wheelbase. Not only are the lines of the car improved by this disposition, but there is a better distribution of weight and a consequent economy in tires, but 3 1-2-inch tread being fitted on the lighter models. Engine control has been included in the improving process, spark and throttle levers now being placed above the

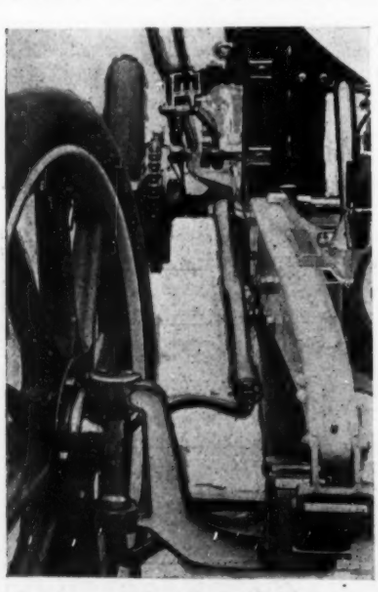


INTAKE SIDE OF FOUR-CYLINDER STEARNS MOTOR WITH 1908 IMPROVEMENTS.



SHOWING ACCESSIBILITY OF THE STEARNS DOUBLE IGNITION SYSTEM.

wheel, thus giving more knee room for the operator. Pedals are the same—clutch and brake, with accelerator pedal on the extreme right. Dashboard arrangement has also been simplified, the coil, pressure pump, manometer and auxiliary feed tank being all that is carried on the one-piece veneered mahogany dash, coil and tank casing being made to match same. One of the minor improvements is a toe switch, making it possible to switch over from storage batteries to magneto, or cut out altogether without changing position. Improvements in the tank include ease of attachment by means of two simple clasps and a conveniently located gasoline screen removable for cleaning without any tools. The main gasoline tank is in the rear, fuel being fed by pressure to the auxiliary tank, employing a simplified pressure regulating device doing away with the check valve used heretofore.



DISTINCTIVE STEERING GEAR.

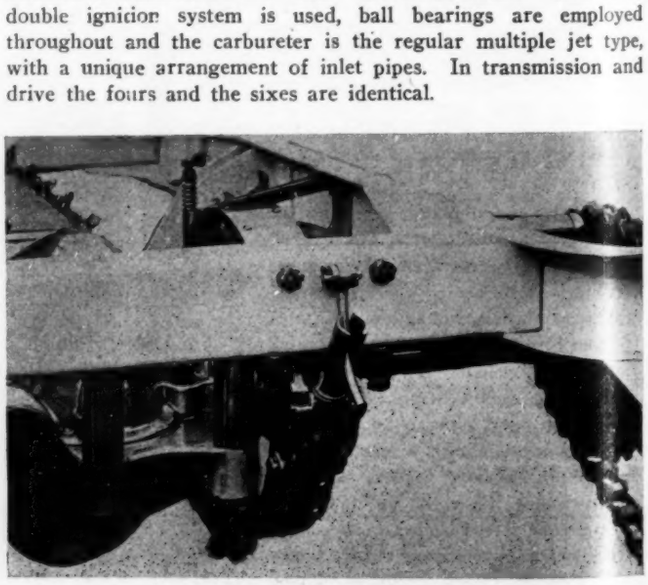
The steering gear of the Stearns, which is of the worm and sector type, has as its distinctive features the use of ball bearings and the arrangement of the connection from the box to the knuckle. As will be seen from illustration, the drag link ascends instead of descends, as is usually the case, the connecting bar running forward close to the side frame, the transverse connecting rod of course being behind the front axle. Not only is ease of steering obtained, but all vital organs are well protected against road obstacles, the ensemble being one calculated to give entire confidence.

Transmission, as last year, is of the selective type, with final drive from countershaft to rear wheels by side chains. In the first of the organs transmitting power from the engine to road wheels some changes have been made, the flat-faced band clutch being entirely disconnected from the brake mechanism, in accordance with best European practice. Considerable strengthening has been effected in the transmission, the gear box being attached to cross members and providing four speeds forward and reverse on the selective principle. Chrome-nickel steel is employed for shafts and gears and D. W. F. ball bearings are used throughout.

Semi-elliptic springs front and rear have been retained, but have been lengthened three inches in front and six inches in the rear, the back end of the rear springs being supported on dump irons. The channel-section pressed steel frame is dropped to lower the center of gravity without interfering with the road clearance and is narrowed in front to give a wider steering angle. Braking surface has been somewhat increased and the emergency brakes, operated by the side lever with cable connection, are equalized. The powerful, metal-to-metal brakes on the countershaft have been provided with an improved method of adjusting, whereby the slack can be taken up in a few seconds and the bands securely locked. Fender construction has been somewhat improved and the lines slightly modified, with a view to completely protecting passengers from mud, no matter how fast the car is traveling or how dirty the road. The running and footboards are of cork linoleum, held by a brass molding instead of aluminum.

Body design for the coming season will comprise two full touring cars—a five-passenger standard car and a seven-passenger Pullman. In addition, a four-passenger roadster will be produced for those desiring a light, speedy car carrying this number of people. Limousine and landaulet, by the leading body makers of the country, will be supplied for the four-cylinder chassis when desired. A runabout body will be the standard equipment for the six-cylinder car.

In the six-cylinder model, nominally rated at 45 horsepower, but actually producing 90 horsepower on a brake test, all the distinctive features of the "four" are to be found. The same double ignition system is used, ball bearings are employed throughout and the carbureter is the regular multiple jet type, with a unique arrangement of inlet pipes. In transmission and drive the fours and the sixes are identical.



BRAKE ADJUSTMENT A FEATURE OF NEW STEARNS MODELS.

THE Touring Club de France has for its prime end the development of *"le tourisme"* in France in all its forms—on foot, *à cheval,* by carriage, automobile, railway or steamboat. Its badge is to-day as common throughout France as was the palmer's shell in the days of the Crusades, and is recognized by thousands, while the "delegates" of the club—to the number of something like three thousand—are found all over the country and are ever ready to help the traveler, gratis, with all manner of information concerning sights and scenes, roads and routes and hotels, etc., and to enroll new adherents.

Members are provided with a *"carte d'identité,"* bearing a miniature photograph of the holder, and with the monthly magazine, *La Revue Mensuelle.* This publication contains valuable information for tourists of all ranks in France, and is made up of exceedingly ably written and illustrated articles on many subjects relating not only to touring, but with references to historic sights, local fêtes and celebrations and what not, and the whole is so put together that it is of great practical value and not as dry as dusty archæological reports or unattractive like a railway time table. The stranger tourist, none the less than the habitant of France, will hardly be able to get the maximum of comfort and satisfaction out of French travel without becoming a member of this most excellent institution.

The *"annuaire,"* or hotel list, of the association is also a valuable aid to travel in the French provinces, and the club also publishes a series of specially designed and printed touring maps and plans which are marvels of the cartographer's art. There are now neighboring upon 120,000 members of this great and growing association, which itself is under the direct patronage of the President of the Republic, with M. Jacques Baliff as president of the club.

Of its great resources, 125,000 francs or more per year are set apart for the general refection or repair of roads in unfrequented localities where perhaps the regular traffic would not stand this extra charge, as the railway managers say. Another fund provides for the placing of frequent landing stages for pleasure boats along the banks of the Seine and Marne and Oise and other navigable rivers, and for the posting of road signs up and down the length of very nearly all the routes nationales of France.

T. C. F. SIGNPOST FOR WATERWAYS.

Within the parent body there is a special section known as the "Comité Technique," whose functions are purely advisory with regard to improvements in road-making, dust-laying, the installation of modern sanitary conveniences, etc. There is also a Comité de Protection des Sites et Monuments Pittoresques, a Comité Nautique, and even a Comité Hippique—for the horse, though rapidly giving up the ghost, is not wholly extinct as yet. Perhaps this committee will some day be supplanted by another devoted to the affairs of submarines, when these unstable craft shall have become the vogue of the world of sportsmen.

All this is something; it's a good deal, in fact; and when there is the added attraction of a magnificently equipped headquarters in Paris—on the Avenue de la Grande Armée, in the heart of the Parisian automobile world—the importance and value of becoming a member of this omnific association will be apparent to everyone who is interested in pleasurable travel.

Besides all this, the automobilist may deposit the customs duty on his automobile on entering France with the club and get back the sum intact again on leaving, instead of having to go through annoying money transactions at the frontier or the port of debarkation. Of course, the thing has to be arranged beforehand, but the procedure is a simple one. The same facilities are offered to one who would take his automobile across the French frontier into Germany, Holland, Belgium, Italy or Switzerland.

How Entrance to Foreign Countries Is Facilitated.

All this machinery, with reference to the importation and exportation of automobiles in and out of France, is put into motion by a system which is built up in the form of a *"triptyque."* There's a *"triptyque"* by Rubens in Antwerp's cathedral, which is the best known to tourists in general, but this automobilist's *"triptyque"* is built on the same plan—a central panel, or leaf, and two outer or folding leaves, one on either side. To most automobilists this latter is likely to become as well known as that earlier and more artistic, if less practical, work of Rubens.

SLOW, DOWN GRADE

This automobile *"triptyque"* consists merely of three joined-together leaflets, one of which is given up on passing the customs house on entering, another on leaving, whilst the third, or last (endorsed by the officials of the customs house passed on leaving France), is held as a draw-back check, upon the surrender of which the original deposit will be paid over by the Touring Club de France—always provided that the formalities (which are not onerous) have been properly complied with at the respective Bureaux de Douane. Forms of application and further particulars may be had from the club direct.

MAIN ENTRANCE ON AVENUE DE LA GRANDE ARMEE.

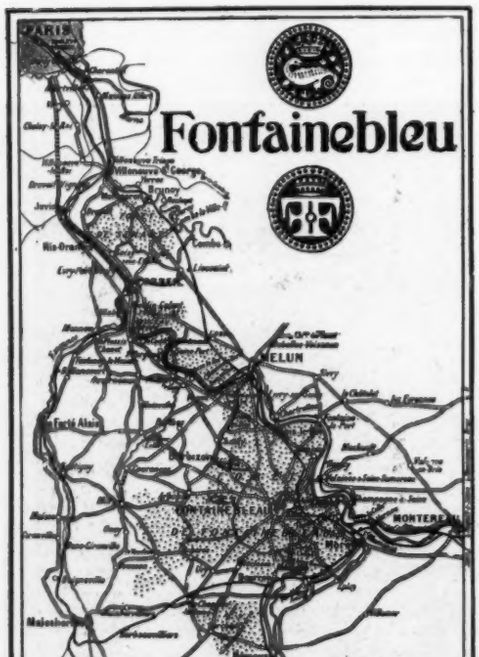
Before the bubbles in the casserole which brewed the unsavory *"Affaire Humbert"* (that

THIS FOR OUR COUNTRY INN, SAYS AUTHORITATIVE T. C. F.

of the mythical millions) a few years ago had quieted down, the Touring Club de France, with the ready money right in its inside pocket, stepped in and bought of the liquidator of the affairs of *"la Therèse magnifique"* her fine *hôtel privé* on Paris' Avenue de la Grande Armée, just beyond the Arc de Triomphe, and near the Porte Maillot entrance to the Bois.

A half a million quick cash was the price put upon the property by the administrator of the courts, and so the Touring Club de France came to be housed so magnificently. Previously its hundred thousand members had been catered to from a dingy apartment on the third and fourth floors of a nondescript structure in the Place de la Bourse.

To-day the Touring Club de France is as splendidly installed as any club or cercle in Paris, and all for practically a dollar a year, which is the cost to members. To be sure, this elegant establishment at the gates of the Bois does not give you the opportunity of eating or drinking or playing cards within its walls, but still you may stalk majestically up its monumental *escalier* with an air of petty proprietorship if you will; you may consult its library of maps and guides—which the tourist will greatly appreciate, for there is no other collection, in Paris or out of it, so accessible or up-to-date; you may write your letters here, may get full and free information on roads, routes, hotels, and even railway fares, and may attend conferences on such subjects as the "Deforestation of Mountains," "The Building and Upkeep of Good Roads," "Historic Pilgrimages," "Aeronautiques," and what not.



PARIS TO FONTAINEBLEAU ROAD MAP.

The scope of the club is very great, but it is by no means for tourists alone that it exists and does its great work; it is for all Frenchmen and all the world at large who have a care for historic and artistic souvenirs. If some historic or romantic shrine is in danger of being torn down or being made over into a gas works or something of the sort, the club, at the suggestion of its local delegate, comes forward and does a little organizing of public clamor and saves the day. This was the case with respect to that flower of the French Renaissance, the Chauteau of Azay le Rideau, a few years since. The dastardly desecration which in this particular case came so near to being consummated, was no less than the possibility of this gem of a Touraine chateau being pulled down and transported block by block to the banks of the Allegheny or the shores of Puget Sound or some other equally unappropriate spot. Finally the French nation came to the rescue and bought it of its proprietors and proclaimed it a public *monument historique*, upon which vandal hands should never fall. And all this was brought about by the demarches made by the T. C. F.

A CORNER OF THE WELL-STOCKED CLUB LIBRARY.

The Chauteau de Josselin, in Bretagne, now the private residence of the de Rohans, was opened to visitors through the solicitation of the club. It is an ideal mediæval monument, every whit as grand as many in Touraine, and its doors and gates might ever have been closed to the public of all nations but for the solicitude of this great touring association.

If some great tree at Fontainebleau—standing on some historic spot—is to be felled, the T. C. F. comes forward again and the woodman's ax doesn't fall, nor is the stick of dynamite exploded which would blast open some narrow gorge of rock and bereave it of its picturesqueness. So, too, when it comes to modern improvements, the all-powerful society gets some eminent scientist or engineer to map out a project for a new bit of roadway, the restoration of an old bridge, or the erection of some memorial monument on a historic site. The Touring Club, usually, pays the bills, too, if not entire at least in part.

Road Signs and Road Menders Receive Club's Care.

The best system of road-signs ever planted above ground were thought out, produced and put into place through the energies of the club, and it has recently instituted a fund to buy waterproof clothing and rubber boots for the road-menders who do so much to keep French roads what they are. This is better than giving them a six-penny packet of stale tobacco and a pint of beer, as an analogous institution does in England. It costs more, to be sure, but it produces better results, and good roads are worth paying

for, as we are now just beginning to find out. What a pioneer Napoleon was, to be sure, and what an impetus he would give to automobilism if he lived to-day!

The *Tables d'Orientation* erected by the Touring Club at commanding viewpoints in France are a unique expression of initiative, and an admirable one. A *table d'orientation* shows a sort of circumferential birdseye view of everything roundabout, and is designed mathematically and topographically correct and reproduced in the form of a great circular enamelled table, and placed horizontally three or four feet above the ground. That recently erected at Cap Roux on the Riviera corniche is the latest of these innovations, but there are many others already in place, and many more projected, at various seacoast points, in the Pyrenees and in Dauphiné and Savoie. If some Rockefeller, Carnegie, or a Roosevelt wants to inaugurate a good idea in America, a land of magnificent birdseye views, let him endow a series of these admirable accessories. The accompanying plan will show how it is to be carried out in the most successful manner.

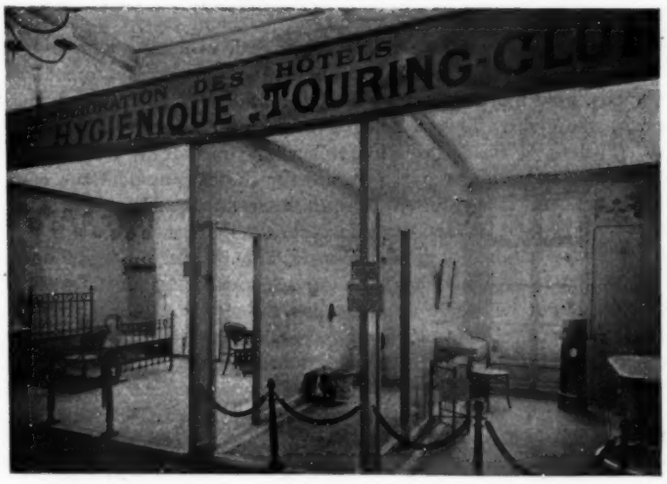
At still other commanding sites the Touring Club has erected benches (*with backs to them*), always facing some ravishing vista or a smiling prospect. The initials T. C. F. are deeply carved and

TO ENABLE THE WANDERER TO GET HIS BEARINGS.

blazoned thereon and there are hundreds of these all over France. There are no other amateur carvings thereon; the craze for writing or carving one's name, or that of their sweetheart, does not get a foothold here. The conveniences of the T. C. F. are apparently a public trust which is never betrayed.

The *"annuaire,"* or hotel list, published by the club contains the names of many thousands of French hotels, with prices of the various accommodations offered. Sometimes, too, there is a special 5, 10 or 15 per cent. to be had in the way of a discount, freely given to members when their membership card is presented upon demanding one's bill. It is a real discount, too; there is no fake about it, with prices made out accordingly. These specially affiliated hotels are so marked in the *"annuaire,"* which also, in addition to the name and population of the town, gives a note as to whether or no it is a telegraph or telephone office or a railway station, and whether there is a drugstore or not—in case you need it. It also indicates the hotels that have "running water" W. Cs. (this is really worth knowing), and as to whether there is a darkroom for kodakists—this, too, is worth knowing.

The *chambre hygiènique* instituted by the T. C. F., and now



THESE ARE T. C. F. IDEAL TOURISTS' BEDROOMS.

finding a place in so many French hotels, is simply a sane, sanitary sleeping-room, with iron or brass bedsteads, lacquered walls, tiled or waxed-wood floors, and a want of heavy draperies at the windows or woolly, mangy rugs on the floor. The craze for this sort of thing, replacing the stuffy sleeping-rooms of the French hotels of only a generation ago, is fast sweeping all over the country, as also the desire for the traveling automobilist to have a towel a little larger and thicker than a handkerchief and a wash basin something larger than a coffee cup. These things as well are changing for the better. Again the T. C. F.! This amelioration of the French country hotel has been one of the greatest triumphs of the club, for it is to its initiative that it has been due.

As a member of this great Touring Club you are furnished with a little pamphlet of blank forms, which you are expected to fill up from time to time as you find a hotel well or ill appointed, and with this information at hand the editor of next year's *"annuaire"* will be able to keep his list up to date. When it is stated that this desired information comprehends such details as the following, its great value will be readily appreciated: Cleanliness and lighting of sleeping-rooms; quality and abundance of the table; general aspect of the hotel and its appointments; nature of its clientèle; general impressions of the landlord and the personnel; is the hotel provided with detailed maps of the region? are there means for the proper care, storage and repairs of automobiles? is there a darkroom? etc. In addition to this you are asked to give comments on the outlook and accessibility of the house and the length of your stay.

MAIN STAIRCASE IS NOT LACKING IN ELEGANCE

From all this is boiled down certain pertinent facts that are of inestimable value to travelers. This is real, valuable coöperation such as does credit to the brotherhood of stranger automobile nomads, now more numerous in France than in any other country on the globe. This is because the French know how to cater to travelers of this class without boring you stiff by overdoing the thing, and without overcharging for the accommodations offered. There is a written or unwritten law in France which frowns down any radical overcharging, though not many seem to know this. It takes time to get satisfaction, if you think you are being held up in some hotel or garage, and in many cases the thing will not be worth following up. But there is that pretty generally recognized law, nevertheless, which prohibits "unfair trading," and its platform is a pretty broad one.

Another new idea of the Touring Club is the installation of country inns, or châlets, or auberges in likely places, where, perhaps, the local traffic would not support a more pretentious establishment. This will probably lead to the birth of many incipient resorts, but what matter, the traveler of to-day expects to find accommodation for himself and his modern beast of burden, the automobile, wherever he chooses to cut off the gas.

The club will furnish any prospective *aubergiste* plans and particulars as to how he may install a modest inn and will even make arrangements whereby he may get his material at inside figures. This, too, is an idea worthy of great development. The diagram herewith gives an idea of the simplicity and convenience of the small hotel known as the *Auberge du Touring Club*. It's worth being tried in America. Heaven knows, some of our "road-houses" are awful enough, and infrequent enough, too. The idea is susceptible of being worked up into something very important and run on the same grandly organized scale as Pullman cars are run on the railways. Here's a chance for the capitalist looking for a new industry to exploit.

Now for a few facts of practical information. To become a member of the Touring Club de France fill in the application form and forward it to M. le President du Touring Club de France, 65 Avenue de la Grande Armée, Paris, with a sum equal to six francs (say a dollar and a quarter) in the form of an international money order or an American Express Company's "foreign cheque." It's worth the doing, at any rate, whether one actually makes use of all the facilities offered or not. When wanted, the able services of this grand institution, to be had practically for nothing, will be worth all the trouble that has been taken to acquire the right to them.

An arrangement in existence between the American Automobile Association, which has the headquarters for its national secretary, F. H. Elliott, at 437 Fifth avenue, New York City, and the Touring Club makes it possible for members of that association to secure immediate membership upon presentation of their tickets at the Paris offices of the Touring Club. The same results can be obtained by mail by inclosing with the application blank the A. A. A. ticket, which, of course, is returned with the Touring Club ticket. Membership in the American organization is recognized as a sufficient introduction for immediate attention by the French body. In like manner the Touring Club members who visit America are accepted by the A. A. A., though it must be admitted that few Europeans have elected to tour extensively in the United States, which is just beginning to really awaken in the matter of roads building.

SEVEN MODEL HIGHWAYS INTO CITY OF PARIS.

PARIS, Dec. 2.—Although the roads of France are so uniformly good as to earn universal commendation, the outlets from Paris are, without exception, in a poor condition. M. Barthou, minister of public works, has just declared in an official communication to M. Ballif, president of the Touring Club, and M. Chaix, of the Touring Board of the A. C. F., that during the next ten years all the main roads out of the capital will be entirely reconstructed on improved principles. It is intended to lay out seven main roads, paved with small cobblestones on a bed of cement, thus providing easy access to the city from any point of the compass.

2,152,000 MILES OF PUBLIC ROAD—7.14 PER CENT. IMPROVED

WASHINGTON, D. C., Dec. 9.—Some interesting facts and figures regarding the road question in this country are contained in the eleventh annual report of the Secretary of Agriculture, recently submitted to President Roosevelt. As the question is one of absorbing interest to automobilists throughout the country, the following excerpts from the report are not without interest:

The close of the year marked the completion of the first census ever made to determine the road mileage, revenues and expenditures in this country. This investigation was begun early in 1905. Information covering the calendar year 1904 was obtained from carefully selected correspondents in every county in the United States, from State Highway Departments, State geologists, city and county officials, employees of the Office of Public Roads on field duty, commercial and agricultural associations, and newspapers—in fact, every possible source of information was used. The bulletin recently issued on the subject shows the enormous total of nearly 2,152,000 miles of public road; that 7.14 per cent. of this mileage has been improved, and that the total expenditures for 1904 were approximately $80,000,000. Considering the fact that our improved roads have been in process of construction for a number of years, it becomes evident that the results which we are obtaining are totally inadequate to the amount of money expended, and that the mileage is so great that we must of necessity classify our roads according to their importance, bearing in mind the fact that by far the largest proportion of our earth roads must be maintained as such for many years to come.

The construction of object-lesson roads in co-operation with local authorities was continued during the year along the same lines as in previous years, excepting that greater attention was given to the building of earth, sand-clay, and gravel roads.

The trend of public opinion with reference to our public roads is indicated by the requests which have been received during the past year for the detail of men to lecture on road improvements. In former years the demand for lectures on road improvement came largely from road organizations, but during the past year requests have been received from agricultural, industrial, scientific, and commercial organizations which are taking up the subject.

In recent years perhaps the most important, and certainly the most difficult, problem which has engaged the attention of highway engineers is the prevention of dust. Until the general introduction of automobiles, dust was considered as neither more nor less than a nuisance. The problem has now, however, assumed a more serious aspect. The existence of our macadam roads depends upon the retention of the rock dust formed by the wearing of the surface. Under ordinary traffic conditions this dust remains on the road and consolidates to form a fresh wearing surface. But a heavy rubber-tired automobile moving at a high rate of speed produces a partial vacuum behind each wheel which sucks up the dust from the road surface and throws it into the air, to be carried off by the wind. This action soon strips the macadam road of all fine material, the result being that it soon disintegrates.

France, both by reason of her mileage of macadam roads and the general use of automobiles, has given this subject the earliest and most thorough consideration. Investigations and experiments have also been conducted in England, and to some extent in this country. During the past year a thorough investigation was made of the systems in use both in France and in England. Experiments with tar and oil were conducted during the past summer in Kentucky and Massachusetts with a number of materials and preparations designed to preserve macadam road surfaces.

This is a subject which should engage the earnest attention of the National Government at once. No matter how important we may deem the building of good roads, we cannot but consider it even more important to preserve those which have already been constructed. Investigations of dust preventives and road preservaties will be conducted by the Office of Public Roads during this and the next fiscal year as far as its facilities will permit.

EARLY WINTER DOINGS OF THE AUTO CLUBS

SIGNBOARDING BY LIVE MASSACHUSETTS CLUB.

SPRINGFIELD, MASS., Dec. 9.—The extensive mileage of excellent highways radiating from Springfield is now being posted with cautionary signs on all dangerous points, under the auspices of the Automobile Club of Springfield, with signs furnished by the Massachusetts State Automobile Association. One hundred signs have been furnished the club for this purpose under the terms of a special offer made to the clubs by the State organization, and the Springfield club is the first to avail itself of the offer and to actively undertake the work.

The signs are made of enameled tin with "Drive Carefully—Sound Horn" in white display letters on a blue background. The club guarantees to furnish a durable mount for the signs where they are in plain sight of passing tourists, and also furnishes the State organization with a catalog of the exact locations. The signs will be posted on roads from this city to Huntington, Northampton, Palmer, and State Line, and another 100 to be received later will be posted on less frequented roads. The signs will be placed both sides of curves, hills, and underpasses, where accidents are likely to occur from careless driving or ignorance of local highway conditions.

TOLEDOANS PROMOTE AN AUTOMOBILE CLUB.

TOLEDO, O., Dec. 9.—Plans for the organization of the Automobile Club of Toledo were formulated at a dinner given at the Toledo club recently by Edward D. Libbey. Mr. Libbey invited a number of well-known autoists resident in this city, and the members of the club to be were addressed by President F. T. Sholes, of the Ohio State Automobile Association, and President E. S. George, of the Detroit Automobile Club, both of the speakers outlining the advantages to be gained by organizing. A committee consisting of E. J. Marshall, A. L. Spitzer, George S. Mills, Marshall Sheppey, and J. M. Steenberg, was appointed to draft a constitution and by-laws and to arrange for the incorporation of the club. Next spring, it is the intention of the newly formed club to have several of its members appointed as special policemen to aid in the suppression of illegal speeding. E. D. Libbey was appointed temporary chairman of the organization, pending incorporation, and G. S. Mills, secretary *pro tem.*

SOCIAL FEATURES OF THE A. C. OF AMERICA.

NEW YORK, Dec. 10.—Next Tuesday will be ladies' day at the Automobile Club of America, on which occasion tea will be served from 4 to 6, and music provided. The regular Tuesday evening club dinner will be held the same day, at 7:30 instead of 6:30, as heretofore, and will be followed by an illustrated lecture by O. P. Austin, chief of the Bureau of Statistics, Department of Commerce and Labor, Washington, D. C., on "Queer Methods of Travel in Curious Corners of the World." Announcement is made that the annual banquet will be held in the Assembly room of the clubhouse, Saturday, January 25, 1908.

CHAIRMAN HOWER TO HEAD A. C. OF BUFFALO.

BUFFALO, N. Y., Dec. 9.—The annual meeting and election of officers of the Automobile Club of Buffalo will take place at the club headquarters on next Monday evening, December 16. The nominees are as follows: For president, Frank B. Hower, chairman of the Touring Board of the American Automobile Association; vice-president, John M. Satterfield; treasurer, Laurens Enos; secretary, Dai H. Lewis. The members proposed for the new board of directors are Edward H. Butler, Edward R. Thomas, Charles Clifton, James N. Beyers and George C. Diehl. The total membership of the club is now 1,127.

QUAKER CITY MOTOR CLUB MAY HAVE A HOME.

PHILADELPHIA, PA., Dec. 9.—If the enthusiasm manifested at last Thursday night's meeting of the Quaker City Motor Club is a criterion, that organization will have a home of its own before many moons. The membership has been growing by leaps and bounds recently, until the cozy but small quarters in the Hotel Majestic have become much too restricted for comfort. Especially on meeting nights has the lack of room been felt. Besides, the Majestic is too far away from the fumes of "Gasoline Row" to be an ideal home for the club, despite its many comforts. When, therefore, a proposal was laid before the club whereby a whole building in the neighborhood of Broad and Walnut streets was offered at a rental very little, if any, in excess of what is paid now, the members took hold with avidity. The building in question has been used as a club for several years, and but very little money need be spent to adapt it to the needs of the growing membership list of the Quakers.

If the proposed deal materializes—and it is almost certain that it will—a café will be installed, in charge of a well-known caterer, and all the requisites of an up-to-date club put in. Later a swimming pool may be added to the attractions of the new home. Final action on the matter will probably be taken at the January meeting and a special committee appointed.

Five cars, carrying a score of passengers, made up of officials, newspaper men and photographers, took a two-day jaunt, last Saturday and Sunday, over the route of the Quaker City Motor Club's endurance run, which is scheduled for January 1 and 2 next. Besides "spying out the land" preparatory to the adoption of a schedule, Chairman E. C. Johnson, of the club's contest committee, made hotel and garage arrangements at Allentown, where the run will stop over night, and selected points along the route where checkers will be located.

The first day's run, to Allentown, via Doylestown, Easton, and Nazareth, is about 79 miles, while the return route, via Kutztown and Reading, is a trifle longer. A technical committee of three will examine all of the cars after their return, and in the event of ties, the machines which are in the best condition will be awarded the cups in their respective classes.

DOINGS OF THE CLUB AT WORCESTER, MASS.

WORCESTER, MASS., Dec. 9.—The Worcester Automobile Club will have its second smoke talk of this season to-morrow night. Alfred Thomas will tell of his 3,500-mile tour of Europe last summer in his Pierce car.

J. J. Quinn has returned from a trip to Great Britain and France. While in Paris he attended the Salon and comes back to Worcester with praises for the Salon, but his preference for American cars stronger than ever.

M. P. Whittall, of the Worcester club, has been deprived of his license rights for a term ending March 27, 1908. This was on the initiative of the Massachusetts Safe Roads Association, and the State Highway Commission suspended the license. Mr. Whittall was driving a car which struck a child in Worcester last summer and the action by the association was taken while there is a civil suit pending against him brought by the parents of the child.

EDWARDS NOW AT LONG ISLAND CLUB'S WHEEL.

BROOKLYN, N. Y., Dec. 9.—The Long Island Automobile Club has elected these officers for the coming year: President, Charles Jerome Edwards; vice-president, C. B. Barker; secretary, Russell A. Field; treasurer, Louis T. Weiss. Governors for two years, William Payson Richardson, Dr. T. H. Sharpe, and J. H. Emanuel; membership committee, Samuel F. Burns and F. G. Jahn.

THE AUTOMOBILE

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What Will Another Year Bring Forth in Shows? It is with a sigh of relief that the automobile manufacturer, dealer, and everyone down through the long list of those whom shows affect more or less directly, view the closing of the "big show" season. There are still two events of some importance: the Importers' Salon in Madison Square Garden and the Boston show in March, to take place before the season can finally be said to wind up. But the first holds no great interest for the American industry, while the second is something for which the dealer is largely responsible, and next March is still somewhat in the future. Looking back on what has taken place during the past two months, it would seem as if this first trial of early show dates can definitely be put down as the last, at least under similar conditions, and by this is not meant times of financial depression, as they were something that could not be foreseen.

The first New York show felt the full brunt of this unfortunate period, while the second exhibition happily occurred at a time when it did a great deal of good, but neither succeeded in demonstrating the necessity or expediency of holding shows so far in advance of the dates that have come to be regarded as more or less fixed in this country. The maker could have profited by early show dates in past years when new models were made ready just in time for exhibition and deliveries did not begin until a month or two later, but that time is long since past and conditions have undergone a complete change in the interim. What the next year will bring forth in the way of a show situation is somewhat problematical at the moment, though it seems safe to predict, even now, that there will be some radical changes both in dates as well as other important features, not the least of which concern the sponsors of the different shows.

It is definitely understood that the A. M. C. M. A. and the M. and A. M. will promote an affair entirely of their own planning in New York, and the Chicago show has assumed such proportions that a split is anticipated there also. It is to be presumed that the Licensed interests will continue the even tenor of their way in both cities, where shows are concerned, though there is more or less talk of an open-air event on novel lines.

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Why So Difficult to Evolve Sensible Rules? One of the strangest anomalies in connection with automobile contests of almost every nature included in the long category of events of past years, is to be found in the fact that rules, which should at once be sensible and practical, have been found almost impossible of attainment. Lack of experience could easily be cited as the cause in earlier days, but, as an excuse, this should have lost most of its potency by now. The new attitude assumed toward road racing by British interests furnishes two striking examples—the first, a commendable one that could have been adopted at the outset with equal facility, and the second, a hopeless right-about-face movement that can only serve to further delay the adoption of common-sense standards.

The former of these is the new Tourist Trophy, which will henceforth be a road race, pure and simple, and in which a low maximum weight limit formerly produced such absurdities as *papier maché* bonnets, perforated frames, and, in short, anything but touring cars. Instead, there is now to be a maximum cylinder bore and a minimum weight limit. But in the new 2,000-mile reliability trial, everything has been subordinated to time of performance, this term being held to cover even such details as replenishing fuel tanks. Hair-splitting niceties are ridiculous, as we have had occasion to note very recently, but sweeping them away with one hand and putting them on with the other does not provide the solution desired. Club committees generally have proved themselves woefully incompetent in this respect, and, sad to relate, only an occasional gleam of encouragement shows that better things may come in the fullness of time. A National Committee, like the new Technical Board of the A. A. A., should, and probably will, provide rules for standard kinds of technical contests.

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Enforcing Blue Laws Was Physically Beneficial. It may have been a mere coincidence, but it was plainly evident to any observer that on the first day Commissioner Bingham put into force the regulations designed to give New Yorkers a greater respect for the sanctity of the Sabbath the weekly automobile parade should have more participants than usual. Riverside Drive, Broadway and Central Park, from the breakfast hour till sunset, were much more animated than usual with every class of machine from a noisy single cylinder carrying a full load of passengers—the rule appears to be that the smaller the machine the greater the number of people to be crowded into it—to the handsome limousine with liveried men on the front seat. But the majority of those taking the air in this fashion were people owning moderate-powered cars, and who were out for the pleasure of the outing, the owner in nearly every case being at the wheel. The supporters of the new city regulations would probably be surprised to find themselves joined by automobilists in the cry for the "lid down," for so long as weather conditions are satisfactory few of those who opened the garage door when the theater door had been bolted will object to a continuance of the experiment. But the powers-that-be might have care for the hereafter of the taxicab man and suggest more bolting down—then there would be another story to tell.

A. A. A. AND AUTO MAKERS WILL WORK FOR COMMON GOOD

THE first meeting of the new executive committee of the American Automobile Association was held in the First Regiment Armory, Chicago, December 6, a majority of the board comprising seventeen members being present.

President Hotchkiss presented a report concerning the policies and plans of the association for the ensuing year, which was unanimously adopted.

Reports were received from the chairmen of the various boards, including an announcement from the Vanderbilt Cup Commission, stating that at a meeting held in New York, November 27, it was definitely decided to hold the Vanderbilt Cup race in the fall of 1908, and that the time, place and conditions for this contest would be announced as soon as possible.

The recommendations contained in a communication from Chairman Terry, of the Legislative Board, suggesting that the automobile manufacturing associations, through their members, enlist the support of the Federal bill by their agents throughout the United States, and the outline of a publicity campaign through the manufacturing organizations, were approved.

President Hotchkiss, as chairman of the Special Committee on Sanctions, recently appointed by the association to take into consideration the motor racing situation as intensified by the large number of accidents to spectators and participants during the past year, reported that this committee, at a meeting held on December 5, adopted the recommendations which had tentatively been agreed upon at a previous meeting held in New York, and it was stated that the restrictions and recommendations had been unanimously approved by the representatives of the several automobile manufacturing organizations, and that the association would be supported by the manufacturers of the country in their enforcement.

President Hotchkiss also reported on behalf of the Central Conference Committee that the association had received assurances from the various bodies represented on such committee that it would be supported to the limit in the enforcement of the sanctioning power as to all classes of automobile contests, also that at such conference a working basis was arrived at between the various associations interested in and working for desirable automobile legislation and the furtherance of the good roads movement in the State and nation.

The chairmen of the racing and technical boards were instructed to investigate and report at a meeting of the executive committee of the American Automobile Association to be held early in January as to whether the association should hold under its own auspices a stock chassis touring car contest in the spring of 1908, and if such contest seems desirable to suggest the time, place and conditions thereof.

A resolution was unanimously adopted directing that the national boards at once take under consideration the advisability of holding a great national convention of the association at some convenient point during the summer of 1908.

In addition to a considerable number of individual members, the following organizations were elected to membership: Savannah Automobile Club, Savannah, Ga.; Automobile Club of Hawaii; California State Automobile Association.

Contained in President Hotchkiss' Plans.

IN GENERAL.—A continuance of the general policy previously followed, including a progressive increase in membership and a substantial increase in the work and functions of the various national boards.

To that end, (a) the adoption of a plan whereby the individual membership of the association in all of the States will be much increased; (b) the organization of additional clubs in all cities of more than 10,000 population, and the federation of such clubs into State associations, where the latter do not now exist;

Also, the stimulation from national headquarters of (a) club activities, through correspondence and ample publicity touching the work of the national body, as well as through monthly printed bulletins issued by the clubs, frequent meetings, and carefully conducted campaigns looking to new members; and (b) State association work, not merely by correspondence, but by visitation and suggestion.

MEETINGS.—As an example in service, regular monthly meetings of the board of directors, or its executive committee, held, perhaps, in different parts of the country and attended, if possible—at least, executive committee meetings—by a majority of the members;

Also, frequent and regular meetings of the various boards, or, in case this is impracticable, of their executive committees, thus enlisting the services of many men and not placing reliance entirely on the enthusiasm or sacrifice of one;

Also, a national convention of the association, with particular reference to legislation and good roads, at some central point, during the summer season.

BOARDS.—Real activity by each board; co-operation and consultation between boards whose functions in any way overlap; as, for instance, those of the racing and technical boards; vice-chairmen and secretaries in each of the boards seeming to require them.

In legislation, a continuance of present agitation looking toward the adoption of a federal registration bill, and, if possible, sufficient demand and pressure to secure the passage of such bill at the present session of the sixtieth Congress; also, and more important, active co-operation between the legislative board and the corresponding committees in the various States whose legislatures meet in 1908, to the end that in several of them the association's proposed uniform motor vehicle bill will become a law ere the touring season begins.

In touring, increased activity both in the touring board and in the corresponding committees of the State associations and clubs, looking to the aggregation and analysis of touring information available to all members, without charge, on application to the secretary of the association or the chairman of the touring board; also, a plan whereby, in those sections of the country where trunk touring routes are found, there shall be a geographical distribution of road sign work among the clubs in such territory, to the end that all such roads will be marked by signs, bearing the emblem of the association, and clearly indicating directions and distances; and—but of lesser importance—the conduct of the association's annual tour in 1908, perhaps, from some central point and in conjunction with the national convention, previously mentioned, instead of across the country from one center to another.

SANCTIONS.—Sanctions to be granted only by the racing and technical boards, on application made through national headquarters, to club or State association members only, on payment of ample fees—the amount to be regulated by (a) whether for national or international contests, and (b) for contests of minor importance—on an agreement on the part of the applicant, made in the application, to strictly observe the rules of the board granting the sanction, and the terms thereof; penalties and disqualifications to be promptly and rigorously administered.

In short, sanction, supervision and responsibility, or neither; no promotors, other than clubs or State associations; no graft.

MANUFACTURERS.—Hearty co-operation between the association and its contest boards, on the one hand, and the national associations of manufacturers, on the other, both to prevent a multiplicity of contests, and to make the results reliable and valuable.

THE PRESS.—Co-operation with all publicity agencies, by furnishing not merely news announcements as to the activities of the association and its boards, but, all proper information as to the management, policies and finances of the association; and, in return from the press, assistance in preventing publicity concerning fake promotions, uncertain contests, or unsanctioned events.

FINANCES.—A rigorous insistence on the part of the national body that the State associations and clubs perform their financial obligations to the association; sanction and entrance fees and advertising rates sufficiently large to make the racing, technical, touring and publications boards at least self-sustaining; and a complete revision of the fiscal policy of the association before the end of the present fiscal year.

I am not such an idealist as to believe that all of these things can be accomplished, or that even a part of them can be done without some friction and, perhaps, criticism. It may be safely said, however, that, with some such outline of policy before them, the enthusiastic members who now form the executive body and captain the various boards may be able the better to work together for the perfection and efficiency of the association, the maintenance of its prestige and the ultimate achievement of, at least, some of the ideals of the present executive.

WILLIAM H. HOTCHKISS,
President.

December 6, 1907.

BRIEF ITEMS OF NEWS AND TRADE MISCELLANY

NEWS AND TRADE MENTION.

If the proposed automobile race from New York to Paris is carried out, according to plans now being discussed, the H. H. Franklin Company declares that one of their air-cooled cars will be entered.

Manager Gaston Plaintiff, of the Ford Motor Company, is enthusiastic over the results obtained by his company with delinquent accounts which have been placed in the hands of the collection department of the New York Automobile Trade Association.

Announcement is made from Syracuse that a novel town vehicle has been added to the Franklin line. The new model is fitted with a brougham body on the chassis of the Model G 16-horsepower runabout, and will have inside steering. Wheelbase being only 92 inches, the new model can be easily handled in narrow and crowded thoroughfares. Total weight is only 1,700 pounds.

Announcement is made by Paul Lacroix, general manager of the Renault Frères Selling Branch, that it has been decided to open new branches for the sale of Renault cars in various cities in the United States. For Chicago and San Francisco arrangements have already been completed for the immediate opening of branch houses. As an indication of the growth of the Renault firm, it is declared that in 1898 six cars were produced by six workmen, in a plant covering 27,000 square feet; for 1908 orders have been booked for 4,600 cars, workmen number 2,600, and the works cover an area of 450,000 square feet.

"Don't run your car to the limit of its power," says M. B. Hatch, sales manager of the Thomas. "Any car, one, two, four or six cylinders, will run better and longer if its power is not taxed to its utmost. An example of this was recently shown when one of our older models was brought to the factory for overhauling. Although the car had been run many thousands of miles, the entire mechanism of the car was found to be in perfect condition. When complimented on his driving, the chauffeur said: 'It's easy; I take the steep hills on third speed.' The Thomas Company early recognized the truth of this, and were the first in America to use four speeds forward. It is not that the car can't take the steep hills on direct drive, but a driver will use the Thomas third speed when he will not use the intermediate of cars provided with a three-speed transmission."

"Some people cannot get out of doing things from force of habit, it seems," says the Binghamton (N. Y.) *Herald*. "This morning a man riding in one of those fussy little gasoline motor runabouts that hold two people 'fussed' into Collier street and stopped his 'fussy' at the curb alongside the Court House green. Then he uncovered his legs by taking off a heavy fur robe, and threw the robe over the business end of the car in front. Now, maybe that man had been in the habit of driving a horse, and being careful of his beast in cold weather, always covered him with the robe whenever he stopped. The bonnet being in the front like a horse, perhaps the man thought he would carry out his plan of being kind to his mode of propulsion. Bystanders looked on, expecting him to pat the bonnet on the 'nose' or take out a weight and strap and 'hitch' the car to a telegraph pole or do something else." Phillip Bellows, secretary of the Aluminum Solder and Refining Company, Oswego, N. Y., who was amused at the above, thought it would be an act of charity to call the editor's attention to the fact that water freezes in winter.

The Swinehart Clincher Tire and Rubber Company, of Akron, O., has issued a notice of the Auto Truck Owners' Amalgamated Association comprising the following resolutions: (1) That they will employ only chauffeurs who will exercise good judgment in the handling of their auto trucks. (2) Realizing that truck owners are liable for heavy damages on account of trucks side sluing, striking other vehicles and endangering life and property, they have decided that they will only buy tires corrugated on the tread, provided with a central groove in which a hardened chain can be placed, when conditions demand its use. (3) That they will exercise due care in selecting chauffeurs who know the difference between a good tire and a poor one.

Among the principal exhibits of commercial motor cars at the second annual automobile show of the Dealers' Association of St. Louis, December 14 to 21, will be that of the Logan Construction Company, of Chillicothe, Ohio, which will show a full line of its 1908 product. The exhibit will occupy one of the principal spaces on the main floor and will be made by the company in conjunction with its distributers for Missouri, the Logan Motor Despatch of St. Louis. One of the biggest single shipments of commercial cars ever made in this country will be made at the same time by the Logan company, consisting of fourteen four-cylinder delivery wagons, for the use of the St. Louis *Post Despatch*, which will inaugurate motor delivery throughout the city and its suburbs. The shipment of a train load of commercial trucks to a single company is something unique in the history of the business anl will attract wide attention. It proves conclusively the rapidity with which the motor truck business is increasing, and the experience of the *Post Despatch* with motor delivery will no doubt be watched with close attention by all the other big newspapers of the country. The cars are the regular Model "R" delivery wagons, equipped with a 20-horsepower four-cylinder, air-cooled motor, and with a capacity of 1,500 pounds paying load.

NEW AGENCIES ESTABLISHED.

The Dupont Garage Company, 2020 M street, N. W., Washington, D. C., agents for the Columbia and Corbin cars, has taken up the Lozier line for the District of Columbia.

Owing to increasing business, the National Battery Company has taken possession of the entire building at 236 West Fifty-fourth street, New York, one door west of Broadway. Floor space has been trebled by the change.

The Harrington Garage Company, at Worcester, Mass., has taken over the premises formerly occupied by the Harrington Auto Station, now defunct, and will undertake extensive alterations with a view to increased business. G. H. Phelps, former agent for the Corbin automobile in Worcester County, and F. L. Stanford, are the proprietors.

PERSONAL TRADE MENTION.

E. R. Benson, for some years prominently connected with the Hartford Rubber Works Company, and lately secretary of that concern, has resigned to accept an important position in the sales department of the Cadillac Motor Car Company, Detroit.

From the first day of January, E. Ralph Estep will devote himself exclusively to the Packard Motor Car Company, having accepted the position of advertising manager. From Chicago, where Mr. Estep has plied his facile pen for the past few months in successful publicity efforts for the Detroit firm, a move will be made to factory headquarters.

NEW TRADE PUBLICATIONS.

The car that has no valves has its virtues extolled in the 1908 catalogue of the Elmore Manufacturing Company, Clyde, O. The three models for the coming season are presented in full page illustrations and numerous arguments advanced to prove the two-cycle superiority over the four.

What the manufacturers think of the Richmond car, what makers say of it, and how it should be kept and maintained, is told in the catalogue received from the Wayne Works, Richmond, Ind., where the Richmond car is constructed. Three models are produced, all with four-cylinder air-cooled engines.

United under the same outside wrapper, a couple of elegant booklets have been sent forth from the Electric Vehicle Company's publicity department, at Hartford, Conn., one dealing with gasoline and the other with electric cars. Both are excellent examples of the typographical art, and are further enhanced in value by a colored frontispiece signed by Wildhack.

Eighteen models, from a small four-cylinder town vehicle to a six-cylinder car with limousine body, are included in the large and handsomely produced catalogue of the E. R. Thomas Company, Buffalo, New York. The big series includes, in addition to the output of the Buffalo factory, all the models of the Thomas-Detroit concern, the two being marketed together.

In a sixteen-page illustrated catalogue the George N. Pierce Company presents its models for next season, showing the two six-cylinder models, and the four complete and in detail. Main lines of construction and detail improvements are described and illustrated, and the booklet is embellished by a number of excellent colored engravings of the firm's touring and inclosed cars.